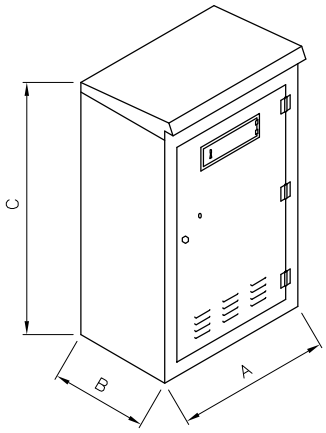
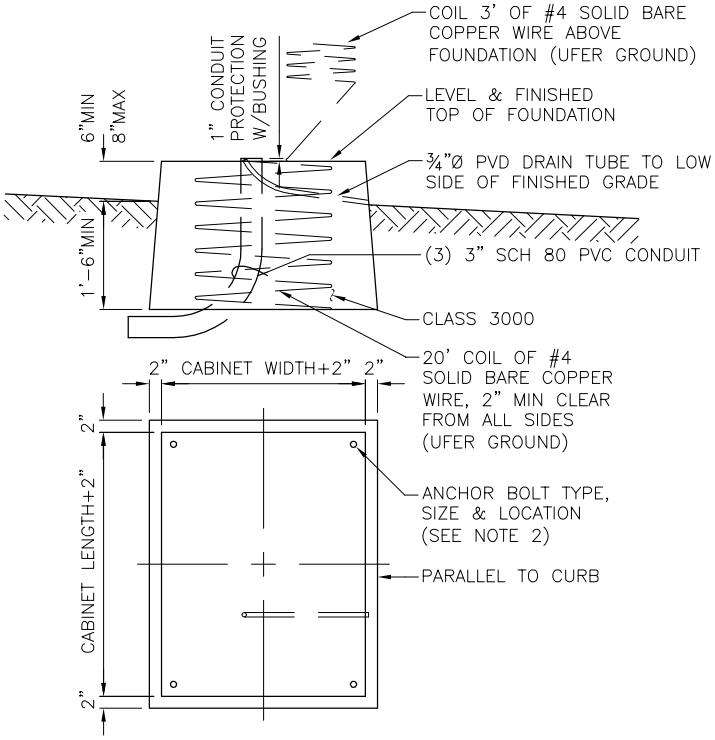


NOTES:

1. UNLESS OTHERWISE SPECIFIED, TRAFFIC SIGNAL CONTROLLER CABINET SHALL BE FURNISHED BY THE CITY
2. UNLESS OTHERWISE SPECIFIED, EXACT CABINET DIMENSIONS & ANCHOR BOLT LOCATIONS SHALL BE PROVIDED BY THE TRAFFIC SIGNAL SHOPS
3. PLACE CABINET DOOR ON SIDEWALK SIDE OF FOUNDATION
4. SEAL CABINET TO FOUNDATION WITH GREY OR CLEAR SILICON TO PREVENT MOISTURE FROM ENTERING THE CABINET

DIMENSION	TYPE II	TYPE III	TYPE VI	AUXIILIARY
A	30"	44"	44"	24"
B	17"	25 ½"	25½"	22"
C	38" TO 52"	50" TO 58"	64¾" TO 67½"	–

SIGNAL CONTROLLER CABINET–TYPES II, III, VI & AUXILIARY

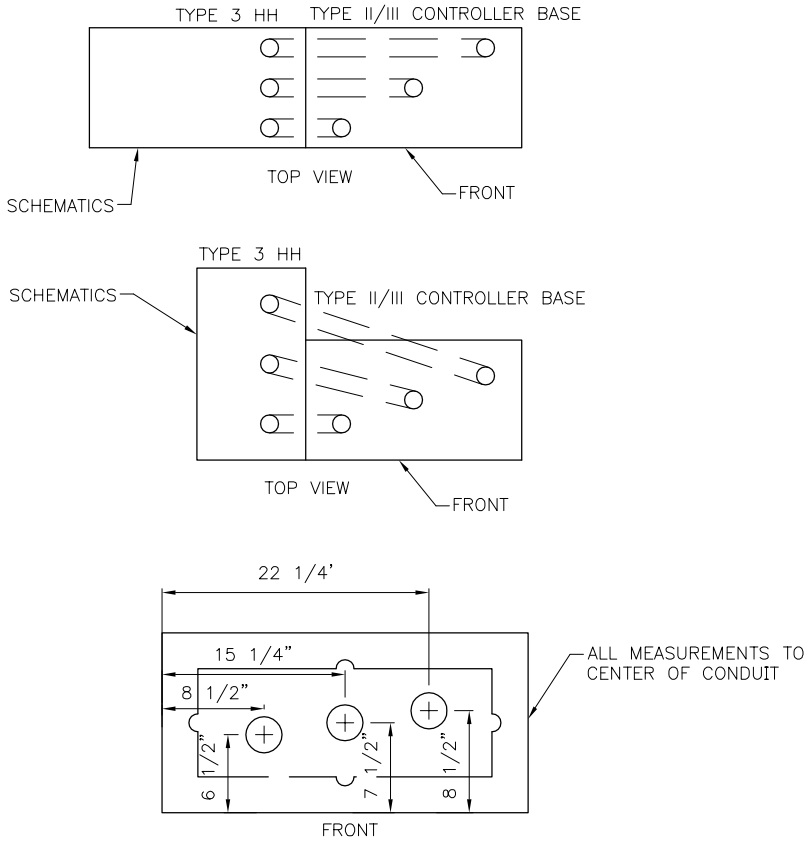


SIGNAL CONTROLLER FOUNDATION–TYPES II & III

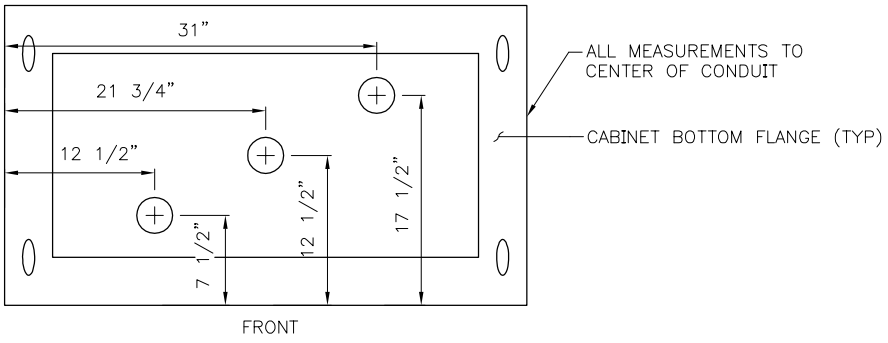
SEE STD PLAN NO 500B FOR CONDUIT LAYOUT

REF STD SPEC SEC 8-31 & 8-32

City of Seattle	NOT TO SCALE	SIGNAL CONTROLLER CABINET & FOUNDATION



CONDUIT LAYOUT–TYPE II SIGNAL CONTROLLER FOUNDATION

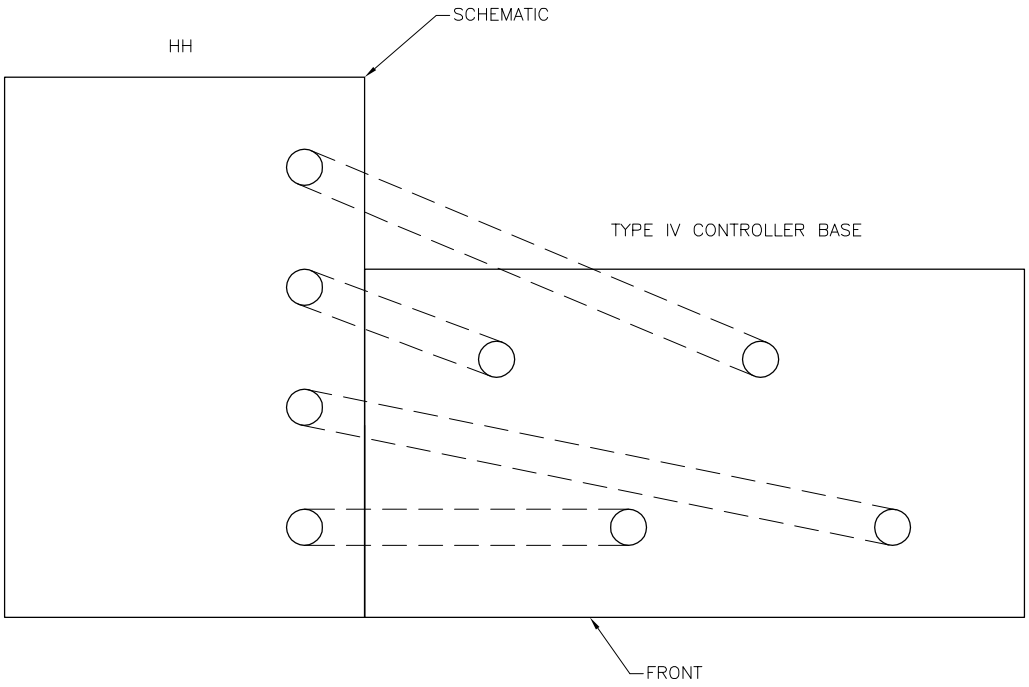


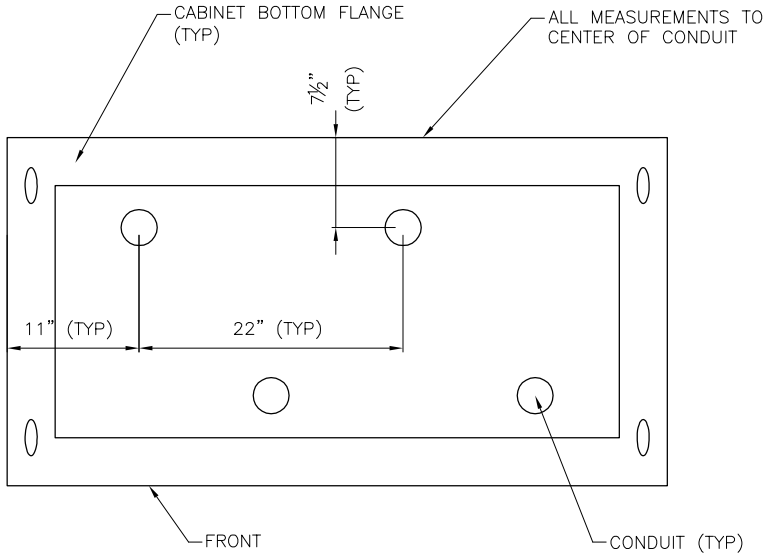
CONDUIT LAYOUT–TYPE III SIGNAL CONTROLLER FOUNDATION

REF STD SPEC SEC 8-31 & 8-32

City of Seattle	NOT TO SCALE	SIGNAL CONTROLLER FOUNDATION CONDUIT LAYOUT

REV DATE: JUN 2010



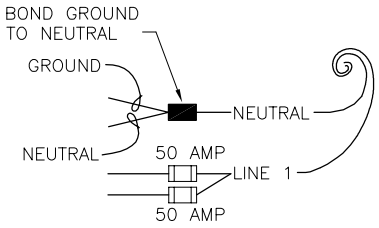


TOP VIEWS

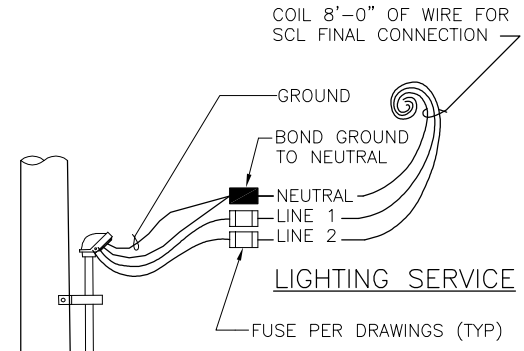
REF STD SPEC SEC 8-31 & 8-32

City of Seattle	NOT TO SCALE	SIGNAL CONTROLLER TYPE IV FOUNDATION CONDUIT LAYOUT

REV DATE: 2008



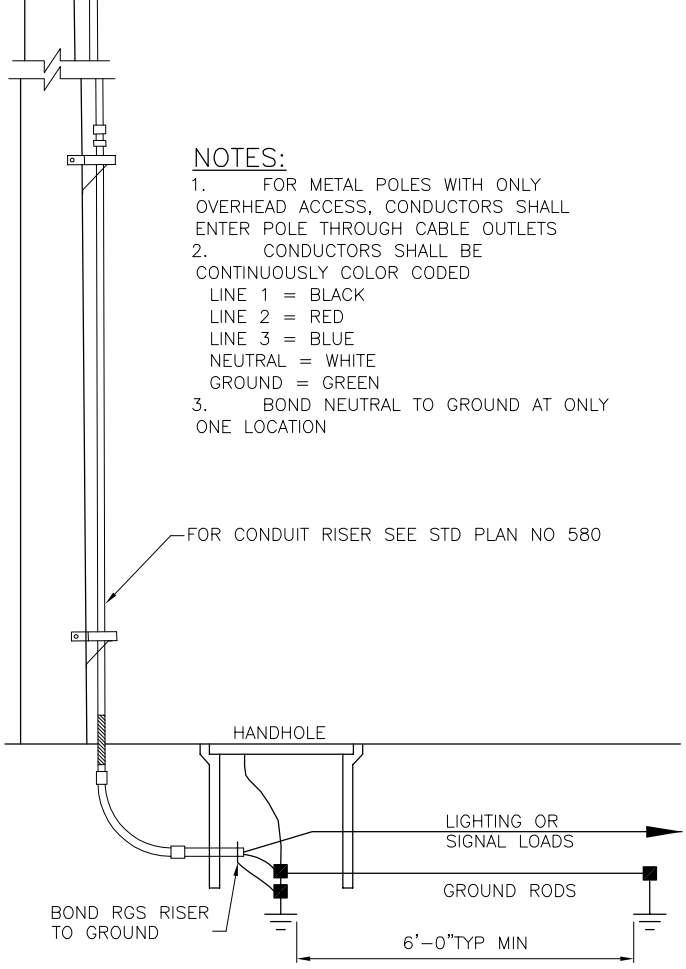
SIGNAL SERVICE



LIGHTING SERVICE

NOTES:

1. FOR METAL POLES WITH ONLY OVERHEAD ACCESS, CONDUCTORS SHALL ENTER POLE THROUGH CABLE OUTLETS
2. CONDUCTORS SHALL BE CONTINUOUSLY COLOR CODED
   - LINE 1 = BLACK
   - LINE 2 = RED
   - LINE 3 = BLUE
   - NEUTRAL = WHITE
   - GROUND = GREEN
3. BOND NEUTRAL TO GROUND AT ONLY ONE LOCATION

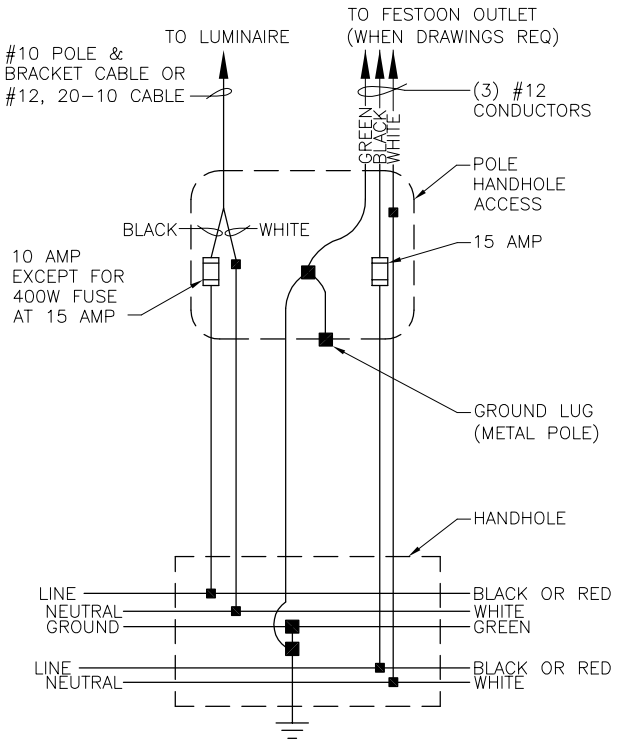


OVERHEAD SERVICE CONNECTION

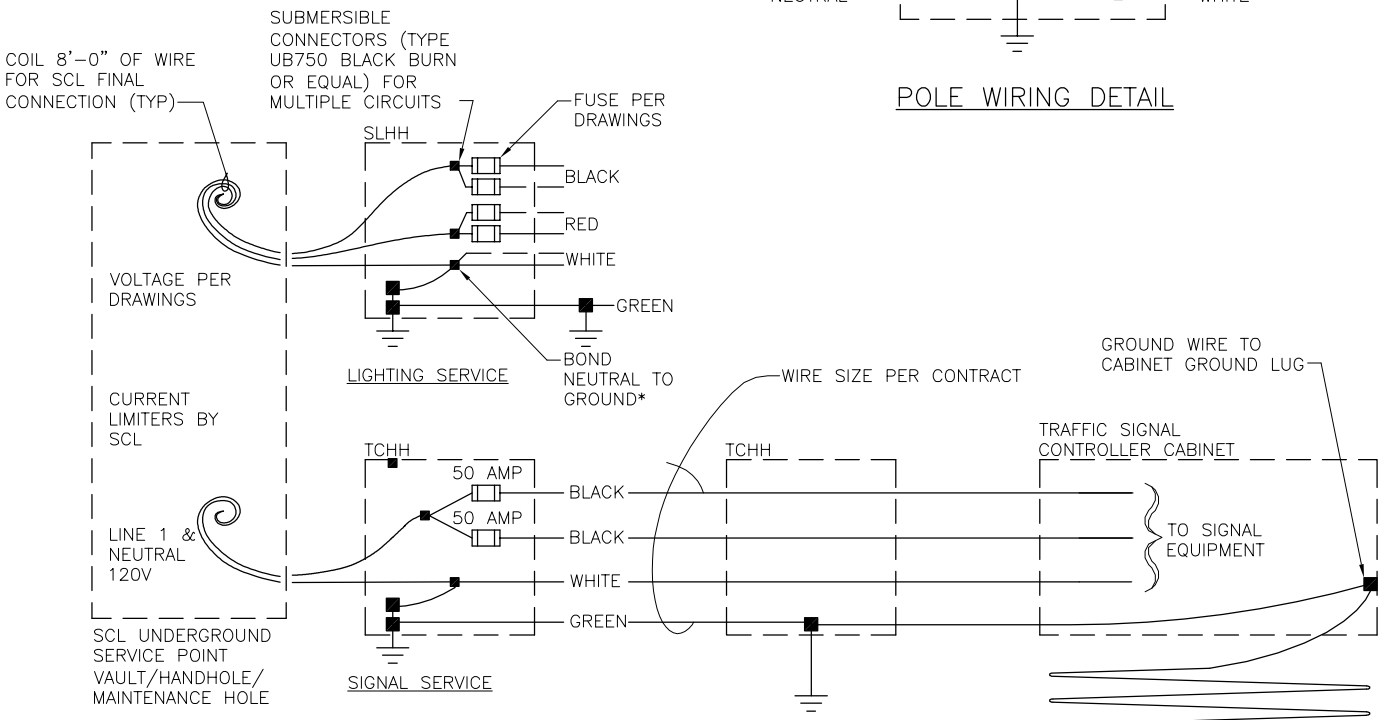
REF STD SPEC SEC 8-30, 8-31, 9-31, & 9-32

City of Seattle	NOT TO SCALE	SIGNAL & LIGHTING SERVICE CONNECTION & LIGHT POLE WIRING DETAIL

REV DATE: JUN 2010



POLE WIRING DETAIL



UNDERGROUND SERVICE CONNECTION

NOTES:

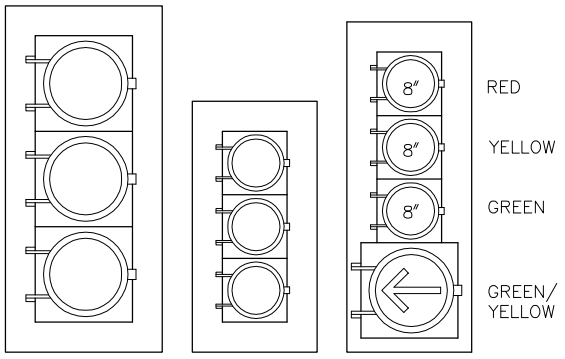
1. *SCL MAY REQ NEUTRAL TO BE BONDED TO GROUND IN SCL SERVICE POINT
2. BOND NEUTRAL TO GROUND AT ONLY ONE LOCATION

COIL 20' OF #4 SOLID BARE COPPER WIRE IN CONTROLLER CABINET FOUNDATION W/2" MINIMUM CLEARANCE FROM ALL SIDES (UFER GROUND)

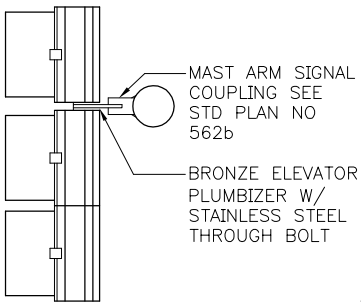
REF STD SPEC SEC 8-30 & 8-31

City of Seattle	NOT TO SCALE	SIGNAL & LIGHTING SERVICE CONNECTION & LIGHT POLE WIRING DETAIL

REV DATE: 2008

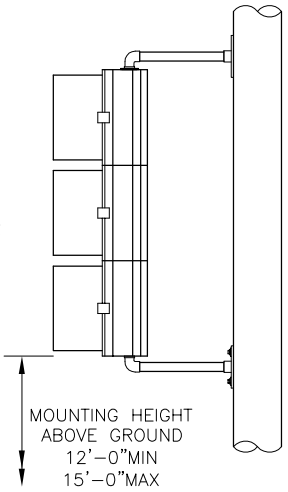


TYPICAL SIGNAL FACES
W/ TUNNEL VISORS &
5"BACKPLATE (LOUVERED)

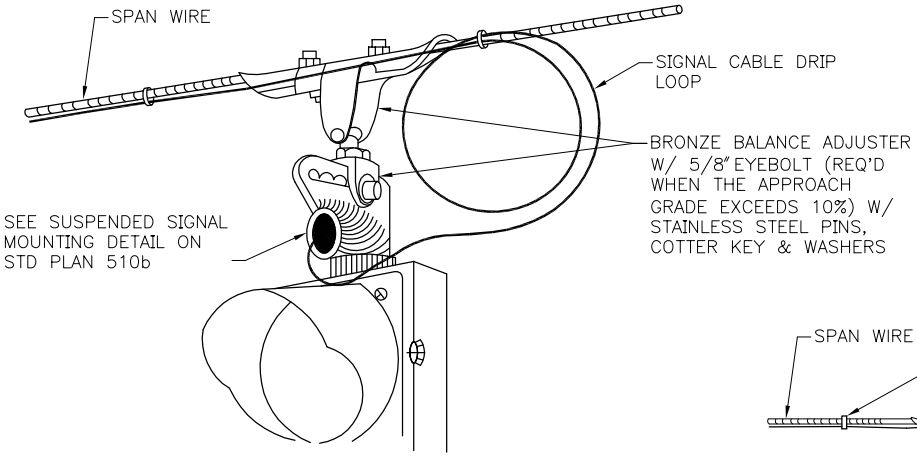


MAST ARM MOUNTING

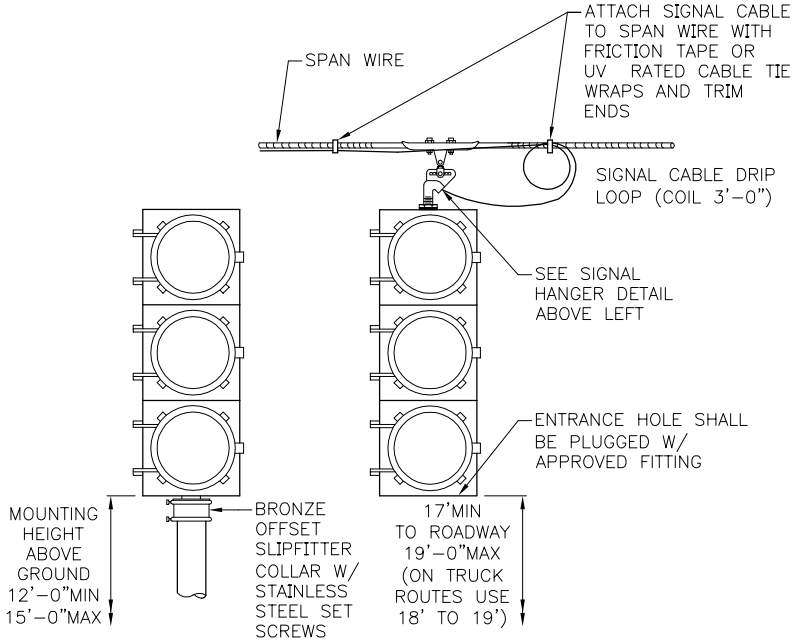
NOTE:
BACKPLATES HAVE BEEN
OMITTED FROM VARIOUS
VIEWS FOR CLARITY



BRACKET MOUNTING
FOR SIGNAL HEAD BRACKET ASSEMBLY
SEE STD PLAN NO 511



SIGNAL HANGER DETAIL

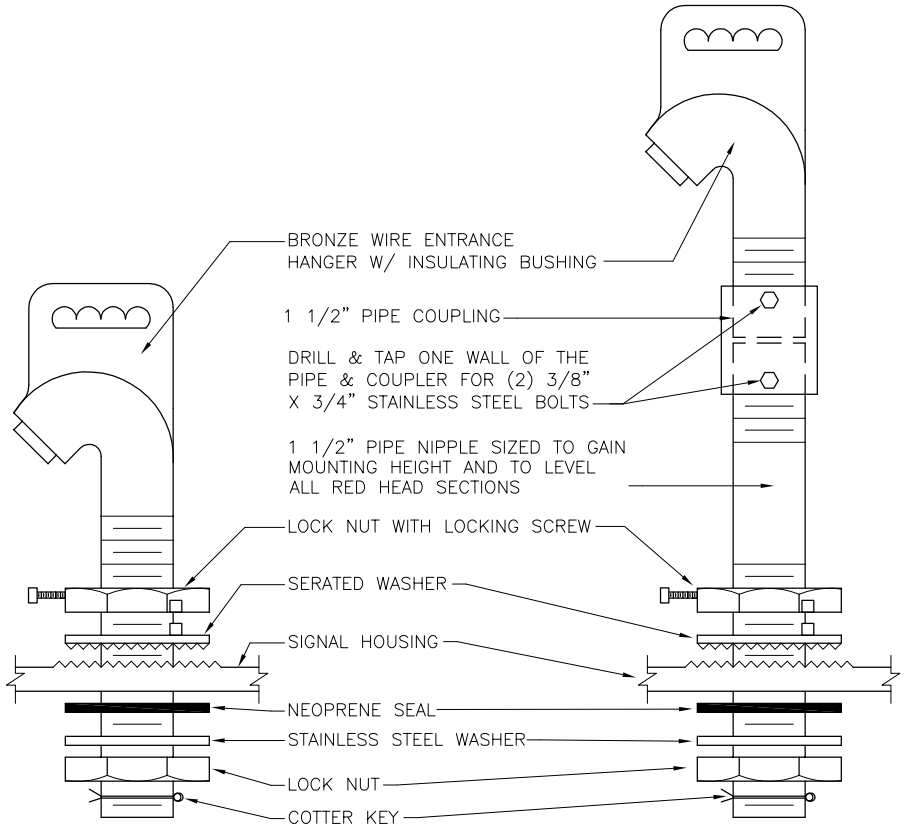


PEDESTAL TOP MOUNTING
FOR PEDESTAL SEE STD PLAN NO 524b

REF STD SPEC SEC 8-31

City of Seattle	NOT TO SCALE	VEHICULAR SIGNAL MOUNTING

REV DATE: 2003

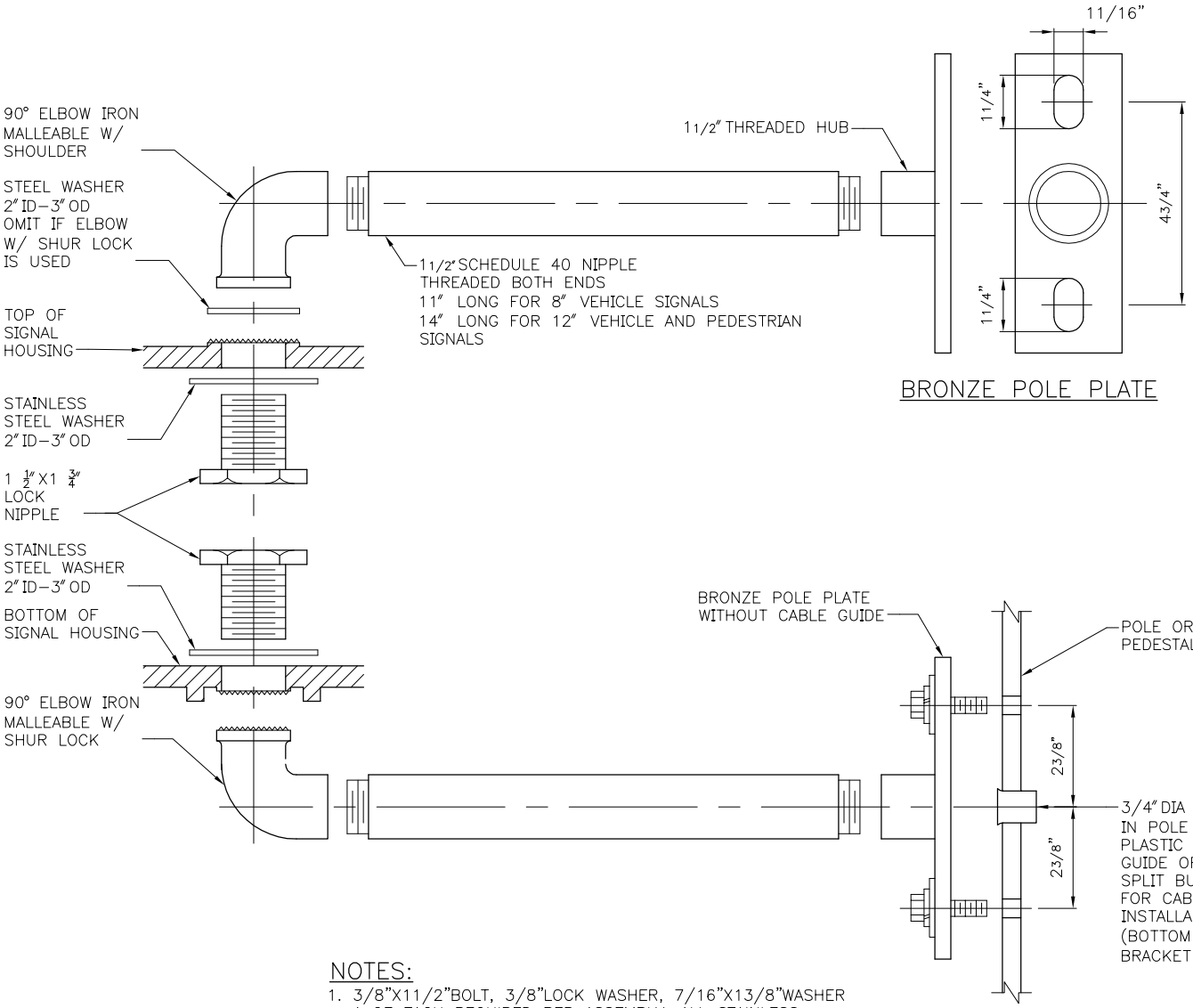


SUSPENDED SIGNAL MOUNTING DETAIL

REF STD SPEC SEC 8-31

City of Seattle	NOT TO SCALE	VEHICULAR SIGNAL MOUNTING

REV DATE: 2003



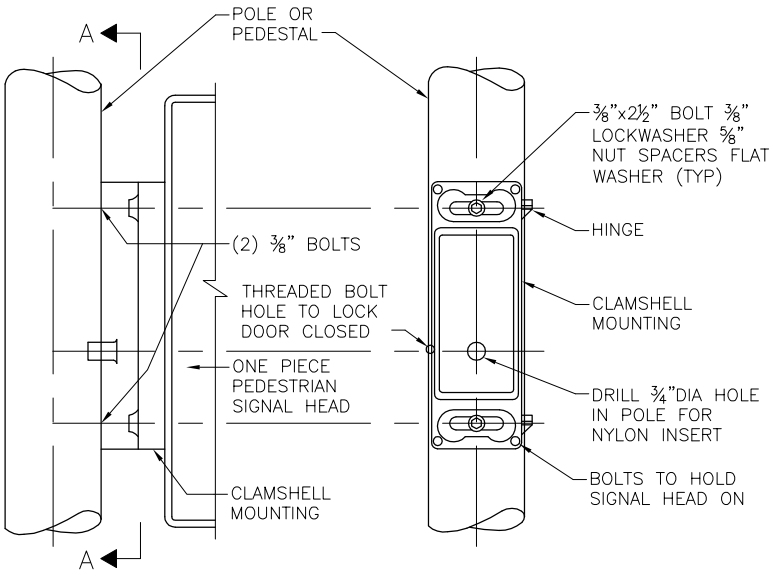
NOTES:

1. 3/8"X11/2"BOLT, 3/8"LOCK WASHER, 7/16"X13/8"WASHER 4 OF EACH REQUIRED PER ASSEMBLY; ALL STAINLESS STEEL.
2. MOUNTING SHALL BE AS FOLLOWS:
   - –ON METAL POLES THINNER THAN 7 GAUGE, USE 3/8" STAINLESS STEEL RIVNUTS.
   - –ON METAL POLES 7 GAUGE OR THICKER, DRILL AND TAP FOR 3/8" BOLT (STAINLESS STEEL RIVNUTS OPTIONAL).
   - –ON POLES FILLED OR MADE WITH CONCRETE USE 3/8"X21/2" MIN STUD BOLT ANCHORS, SLEEVE TYPE.
   - –ON WOOD POLES USE 11/2"X21/2"LAG BOLTS.

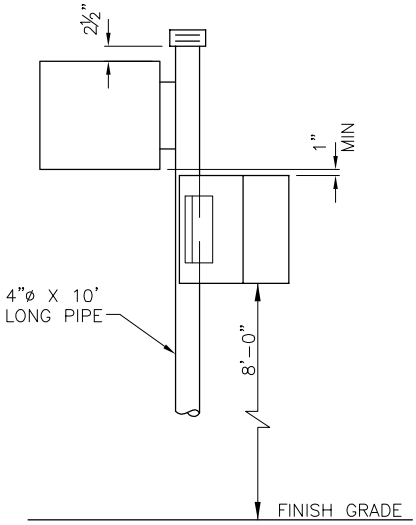
REF STD SPEC SEC 8-31

City of Seattle	NOT TO SCALE	SIGNAL HEAD BRACKET ASSEMBLY

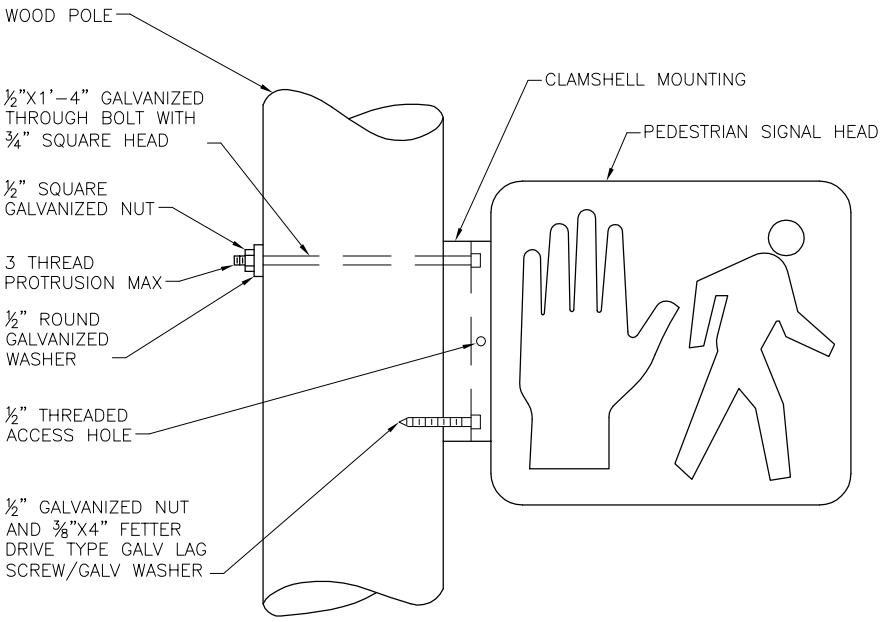
REV DATE: JUN 2010



METAL POLE MOUNT



PEDESTAL MOUNT



WOOD POLE MOUNT

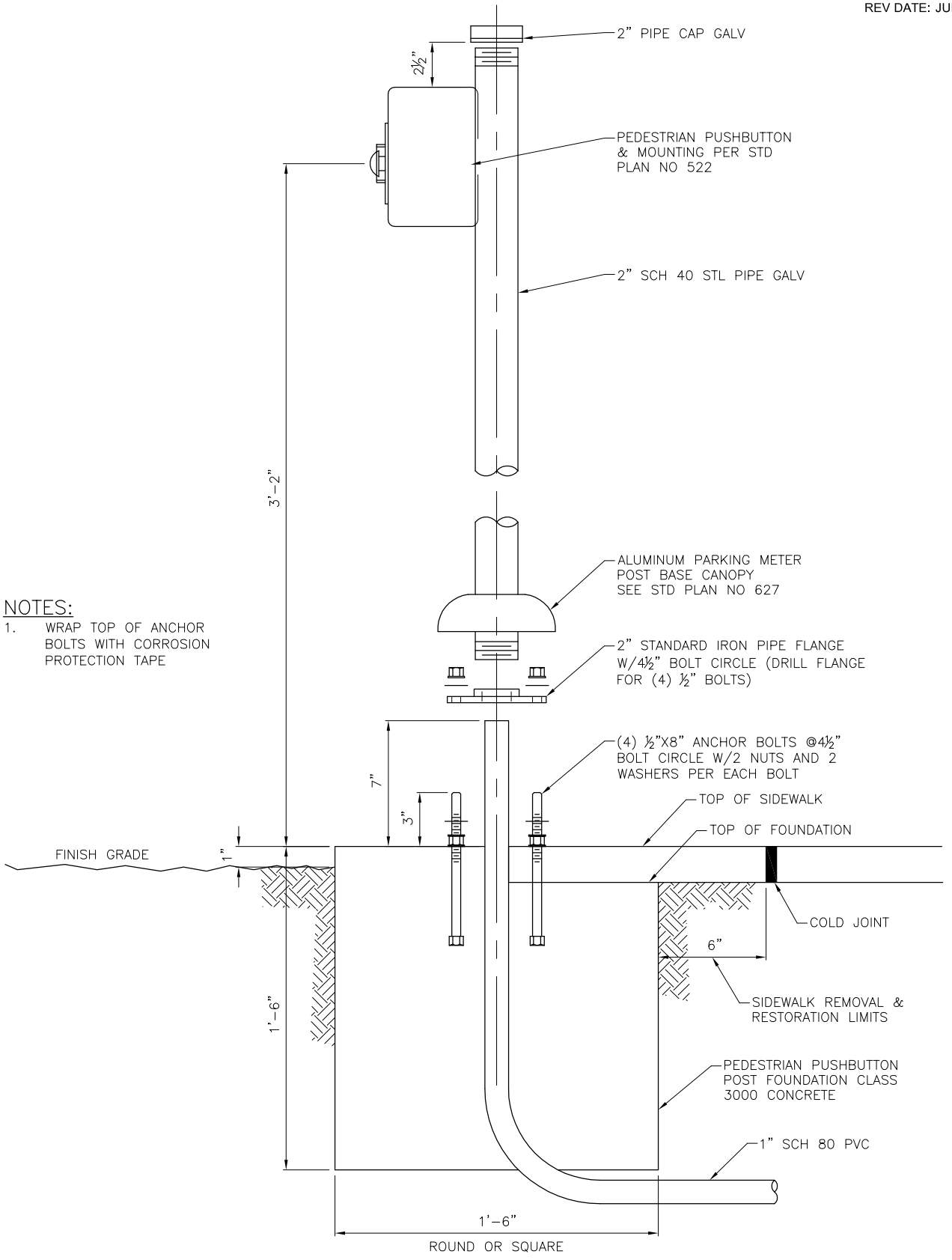
NOTES:

1. BOLT AND WASHERS SHALL BE STAINLESS STEEL
2. MOUNTING SHALL BE AS FOLLOWS:
   –ON METAL POLES THINNER THAN 7 GAUGE, USE ⅜" STAINLESS STEEL RIVNUTS
   –ON METAL POLES 7 GAUGE OR THICKER, DRILL AND TAP FOR ⅜" BOLT (STAINLESS STEEL RIVNUTS OPTIONAL)
   –ON POLES FILLED WITH OR MADE FROM CONCRETE USE ⅜"X2½" STUD BOLT ANCHORS WITH HEX NUT
3. FOR STREET NAME SIGN PEDESTAL INSTALLATION, SEE STD PLAN NO 623

REF STD SPEC SEC 8-31

City of Seattle	NOT TO SCALE	PEDESTRIAN SIGNAL CLAMSHELL MOUNTING

REV DATE: JUN 2010



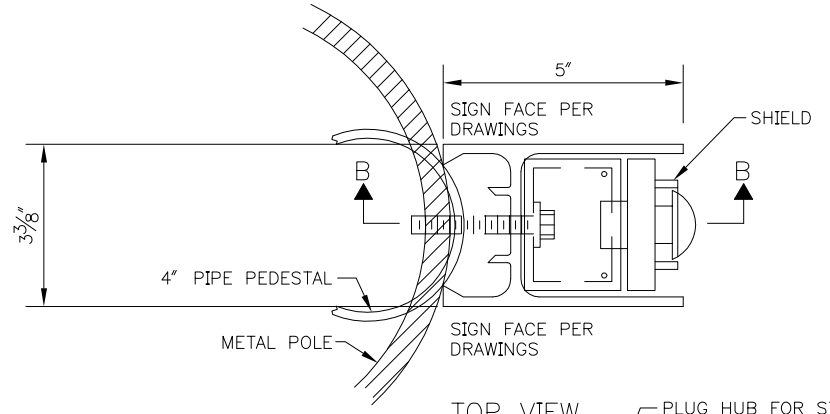
NOTES:

1. WRAP TOP OF ANCHOR BOLTS WITH CORROSION PROTECTION TAPE

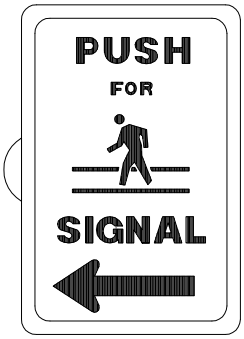
REF STD SPEC SEC 8-31 & 8-32

City of Seattle	NOT TO SCALE	PEDESTRIAN PUSHBUTTON POST & FOUNDATION

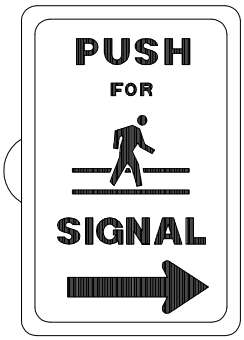
REV DATE: 2005



TOP VIEW



R–37L MODIFIED
(PART NO H3)



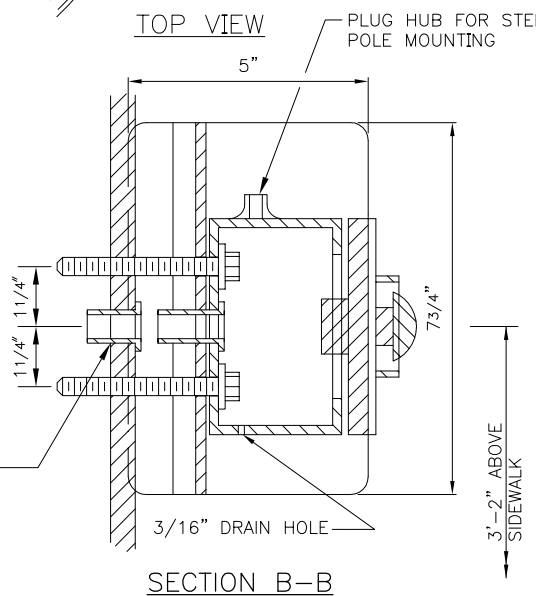
R–37R MODIFIED
(PART NO H3R)

FOR WOOD POLE
USE 3/8″ GALV THRU BOLT FOR TOP HOLE & 3/8″X4″ GALV LAG BOLT & WASHER FOR BOTTOM HOLE

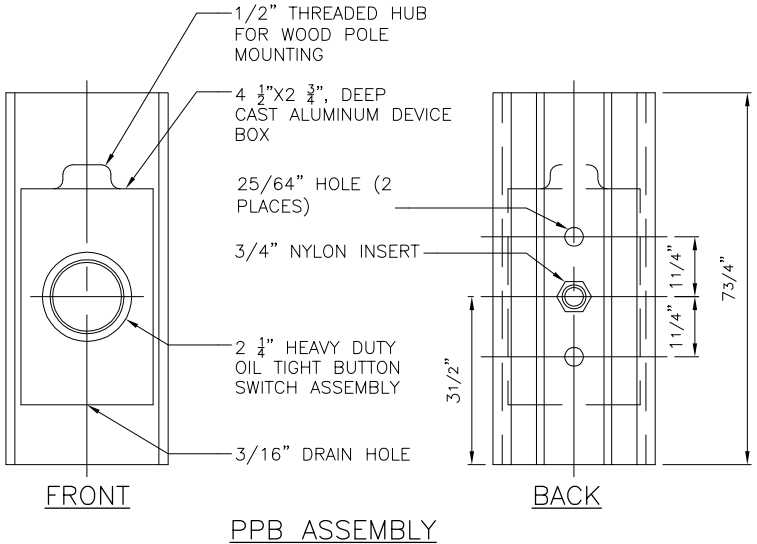
FOR METAL POLE
DRILL & TAP POLE FOR 3/8″X3 1/2″ STAINLESS STEEL BOLTS & WASHERS

–USE 3/8″X2 3/4″ BOLT FOR 4″ PIPE PEDESTAL

DRILL HOLE FOR 3/4″ NYLON INSERT (TYP)



SECTION B–B



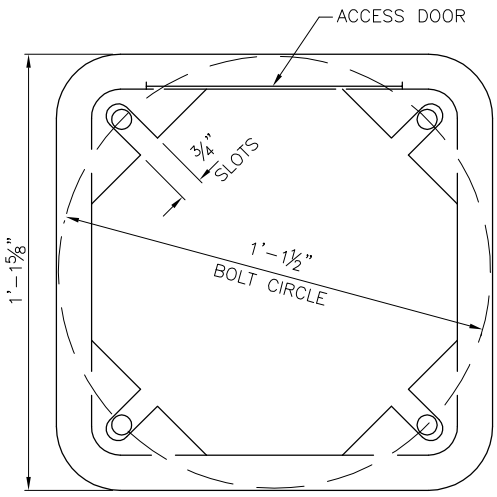
PPB ASSEMBLY

NOTES:
1. MOLDED ONE–PIECE ALUMINUM CONSTRUCTION
2. SIGNS SHALL BE FABRICATED FROM BAKED–ON ENAMEL DIRECTLY ON BOTH SIDES OF THE EXTRUSION

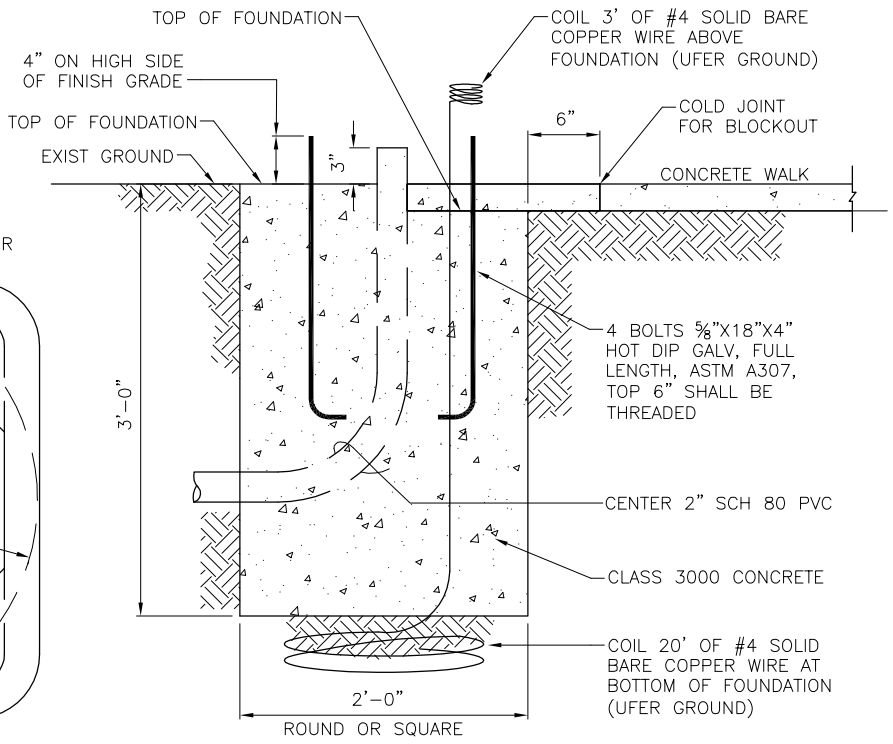
REF STD SPEC SEC 8-31

City of Seattle	NOT TO SCALE	PEDESTRIAN PUSHBUTTON & MOUNTING

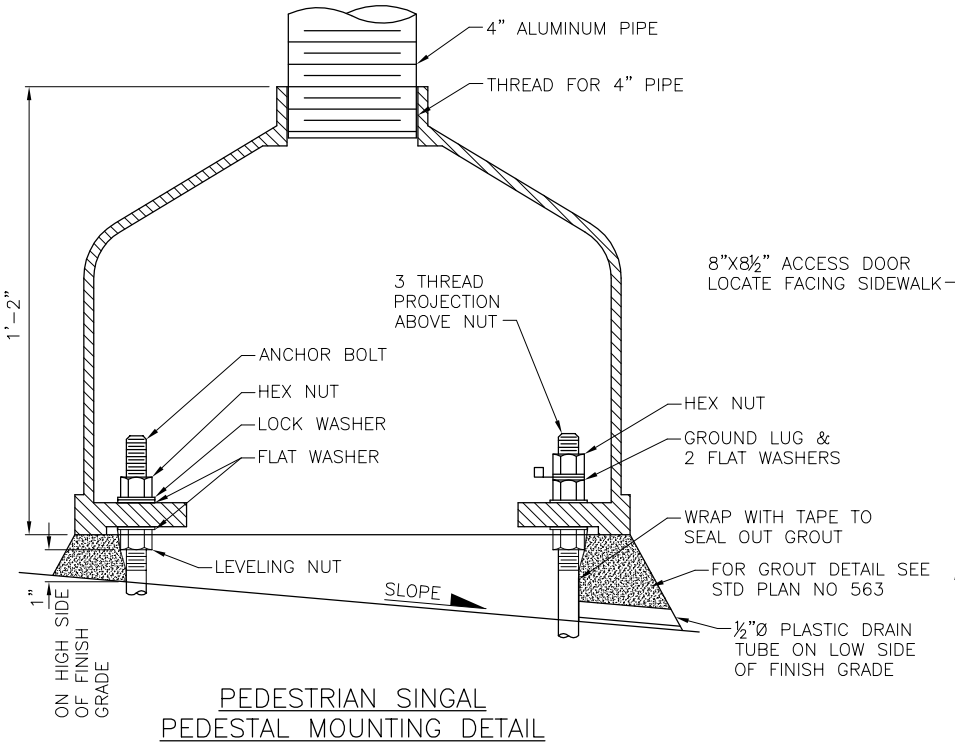
REV DATE: JUN 2010



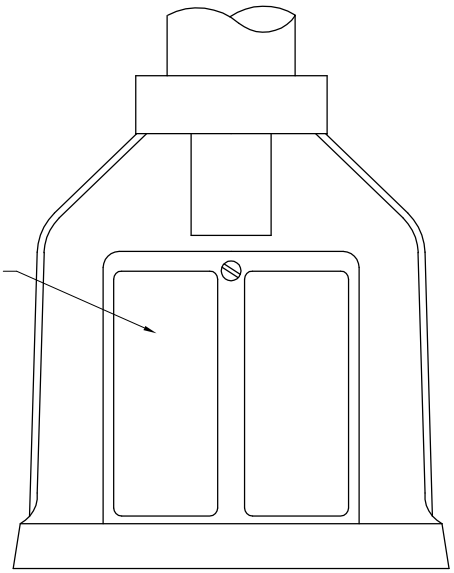
BOTTOM VIEW



PEDESTAL FOUNDATION



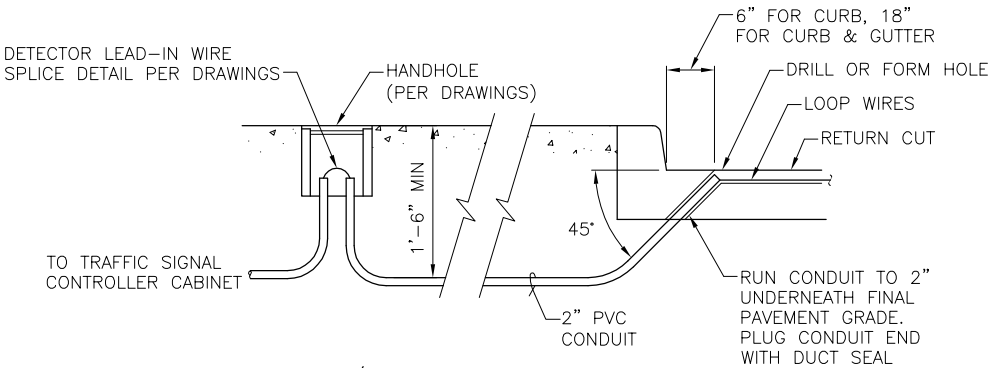
PEDESTRIAN SINGAL
PEDESTAL MOUNTING DETAIL



SQUARE ALUMINUM
BASE PEDESTAL

REF STD SPEC SEC 8-32

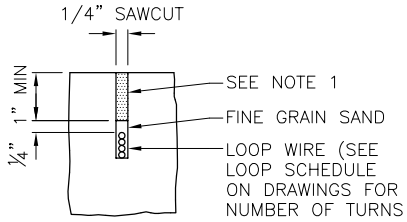
City of Seattle	NOT TO SCALE	PEDESTAL & FOUNDATION



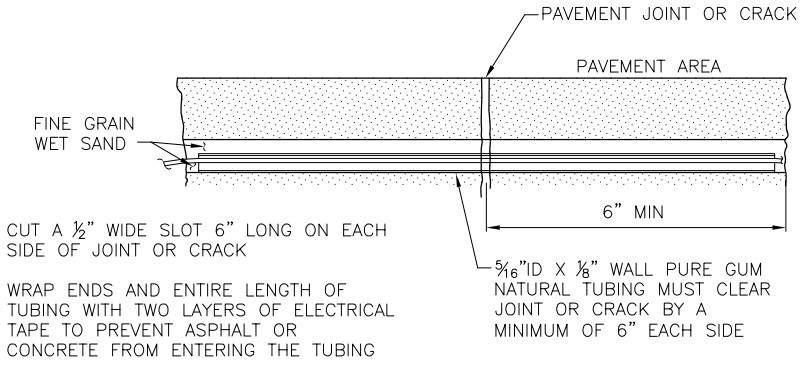
CURB/PAVEMENT ENTRANCE FOR DETECTOR LOOP WIRES

NOTES:

1. FILL CUT AFTER VERTICAL PLACEMENT AND TESTING WITH HOT PAVING GRADE LIQUID ASPHALT ASTM D 312 TYPE III OR QUICK SETTING HIGH STRENGTH GROUT
2. SHARP EDGE TOOLS SHALL NOT BE USED IN PLACING CONDUCTORS IN SAW CUTS
3. EACH PAIR OF LOOP WIRES IN THE RETURN CUT SHALL BE TWISTED A MINIMUM OF 3 TURNS PER FOOT AND MAY SHARE COMMON RETURN CUTS WITH OTHER TWISTED PAIRS
4. TAPE LOOP WIRE A MINIMUM OF 2 TURNS AT EACH CORNER
5. REMOVE SHARP CORNER EDGES IN SAW CUTS WHERE LOOP WIRE WILL BE BENT AROUND
6. PERFORM RESISTANCE AND CONTINUITY TESTS PRIOR TO SEALING LOOP WIRES
7. COIL 5'-0" OF LOOP WIRE IN HANDHOLE



SECTION A-A



CUT A ½" WIDE SLOT 6" LONG ON EACH SIDE OF JOINT OR CRACK

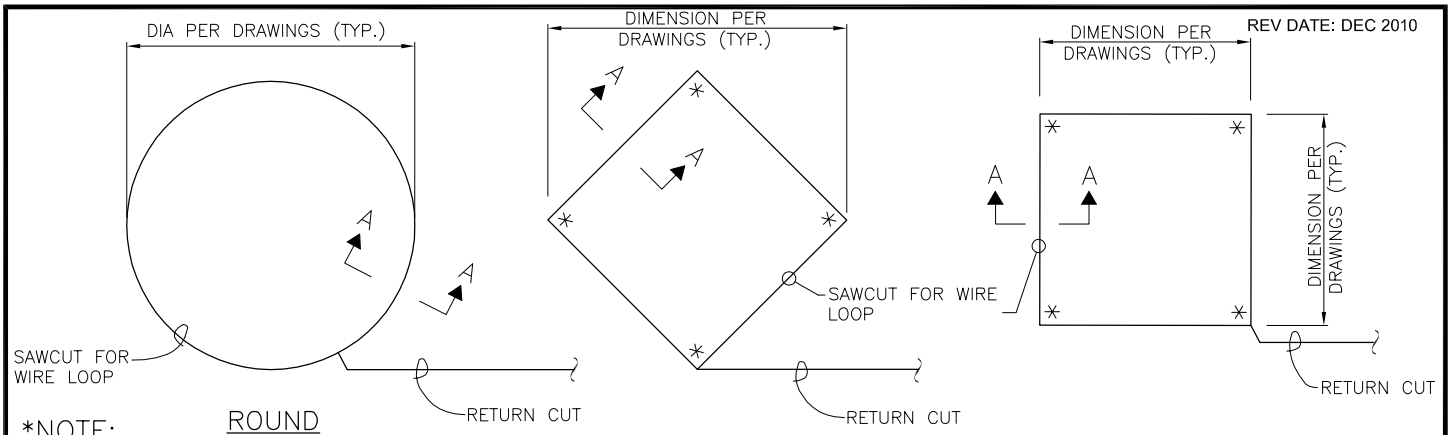
WRAP ENDS AND ENTIRE LENGTH OF TUBING WITH TWO LAYERS OF ELECTRICAL TAPE TO PREVENT ASPHALT OR CONCRETE FROM ENTERING THE TUBING

PAVEMENT JOINT OR CRACK DETAIL

REF STD SPEC SEC 8-31

City of Seattle	NOT TO SCALE	LOOP DETECTORS

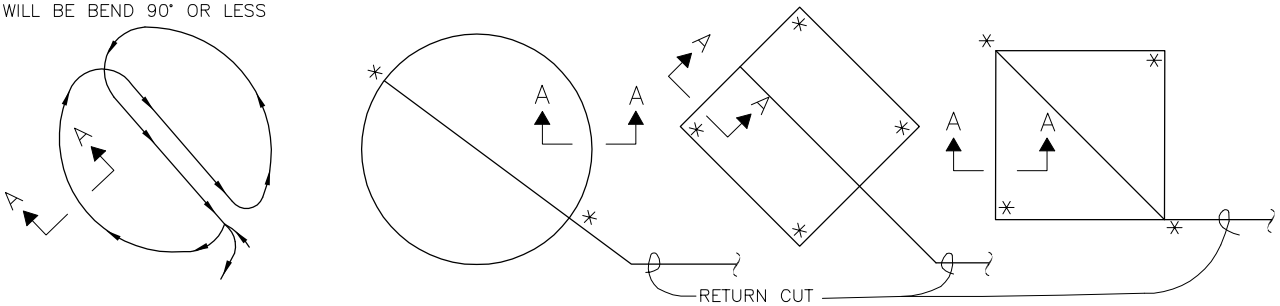
REV DATE: DEC 2010



ROUND DIAMOND SQUARE OR RECTANGULAR

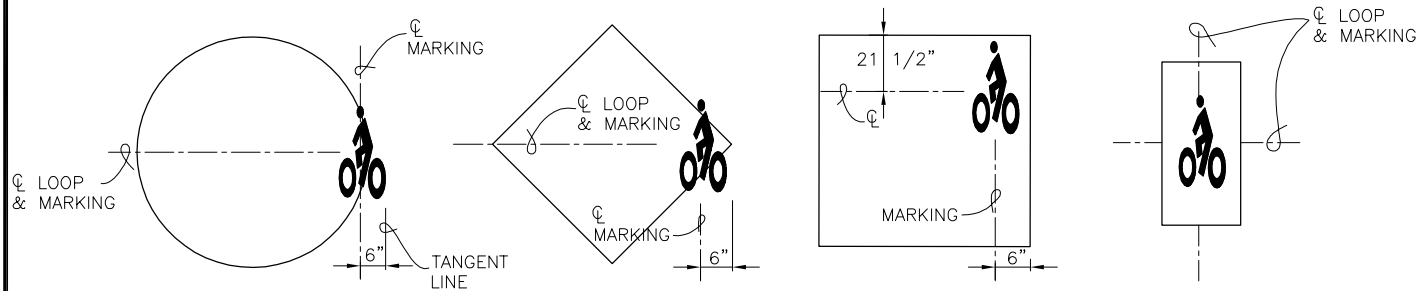
*NOTE:
OVERLAP CUT FOR FULL DEPTH AT CORNERS (TYP.) CHIP 1" BACK THEN ROUND OFF CORNERS WHERE LOOP WIRE WILL BE BEND 90° OR LESS

DIPOLE LOOP DETECTOR



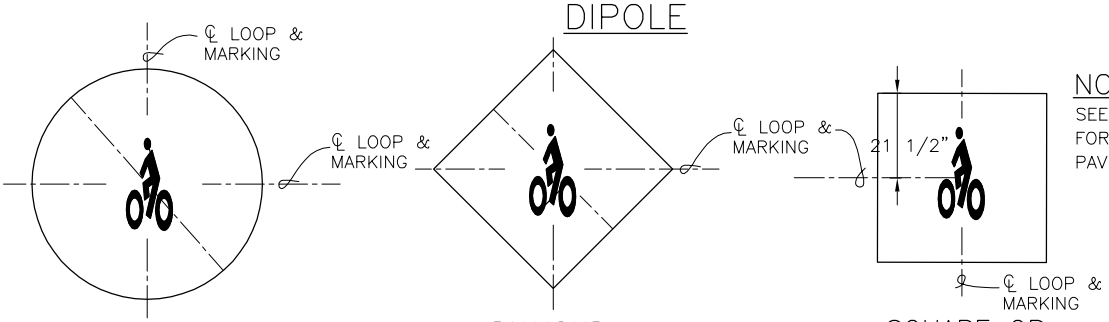
WINDING DETAIL ROUND DIAMOND SQUARE OR RECTANGULAR

QUADRIPOLE LOOP DETECTOR



ROUND DIAMOND BICYCLE

DIPOLE



ROUND DIAMOND SQUARE OR RECTANGULAR

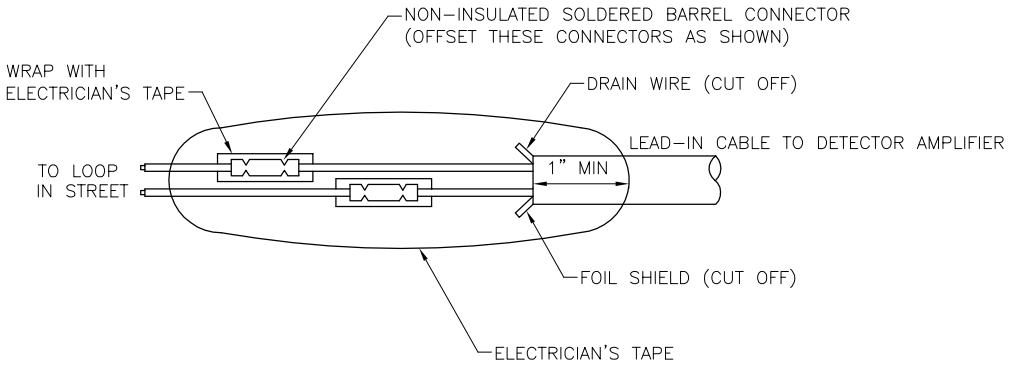
QUADRIPOLE

NOTE:
SEE STD PLAN NO. 725 FOR BICYCLE DETECTOR PAVEMENT MARKER DETAIL.

REF STD SPEC SEC 8-31

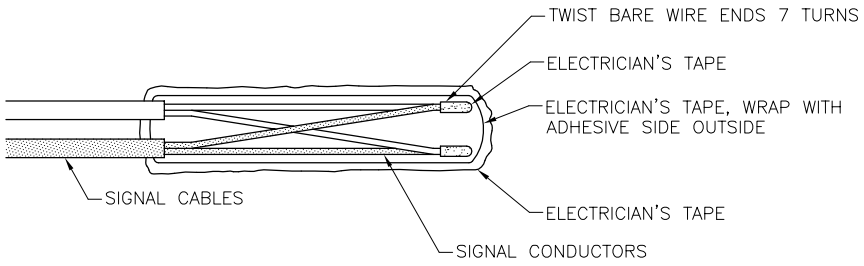
City of Seattle	NOT TO SCALE	BICYCLE DETECTOR PAVEMENT MARKING LOCATIONS ON DETECTOR LOOPS

REV DATE: JUN 2010



DETECTOR LEAD–IN WIRE SPLICE DETAIL

NOTE:
SOLDER CONNECTION AFTER CRIMPING

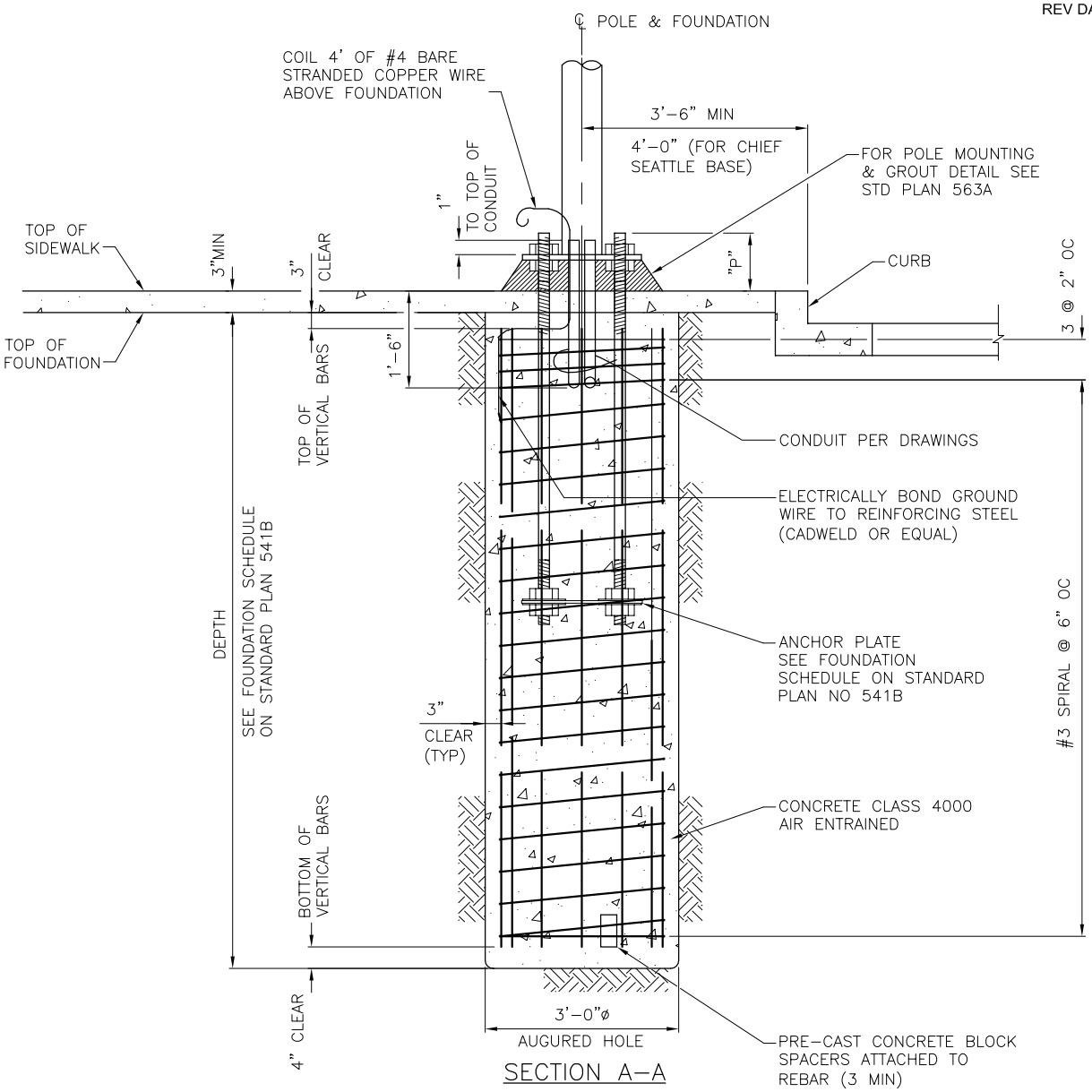


SIGNAL CABLE SPLICE

REF STD SPEC SEC 8-31

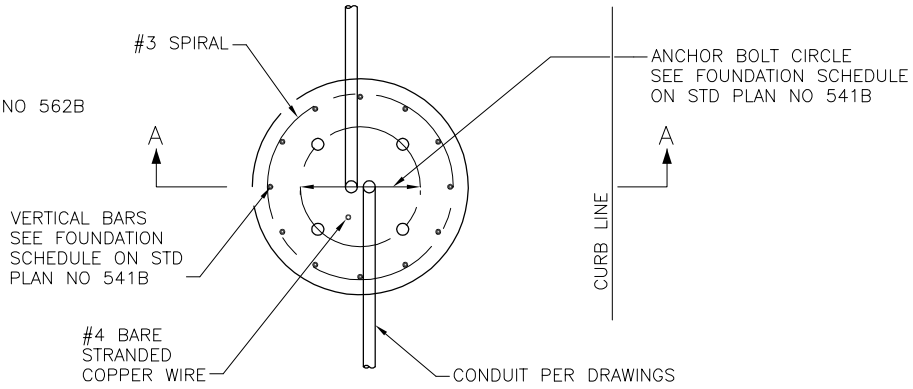
City of Seattle	NOT TO SCALE	DETECTOR LOOP WIRE & SIGNAL CABLE SPLICE

REV DATE: JUN 2010



SECTION A–A

NOTE:
FOR STEEL MAST ARM POLE FOUNDATION SEE STD PLAN NO 562B

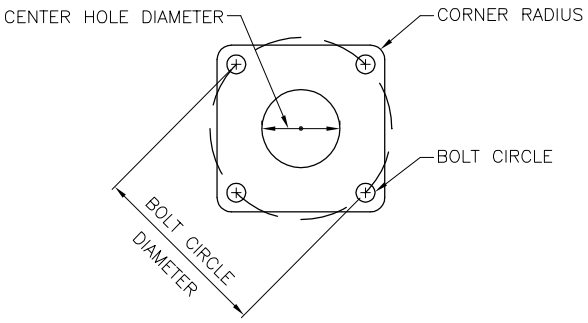


PLAN VIEW
STRAIN POLE FOUNDATION IN SIDEWALK

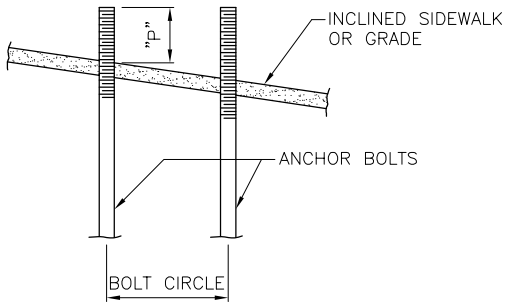
REF STD SPEC SEC 8-32, 6-02

City of Seattle	NOT TO SCALE	FOUNDATION STRAIN POLE FOUNDATION DETAIL (TYPE T, V, X & Z)

FOUNDATION SCHEDULE											
POLE TYPE	PROJECTION		VERTICAL REINFORCING	DEPTH (LATERAL BEARING)		ANCHOR BOLTS (TOTAL 4 PER POLE)	ANCHOR PLATE DIMENSIONS				
	P	P (CHIEF SEATTLE BASE)		100#/SF/FT	150#/SF/FT		SIZE	BOLT CIRCLE DIA	BOLT HOLE	CENTER HOLE	CORNER RADIUS
T	7½"	8"	8 #7	8'–0"	7'–6"	1½" DIA X 60"	⅜" X 16" X 16"	14½"	1⅝"	10"	1⅝"
V	9"	9"	8 #8	9'–6"	8'–6"	1¾" DIA X 72"	⅜" X 16" X 16"	18"	1⅞"	12½"	1⅝"
X	10"	10"	12 #8	12'–6"	10'–6"	2" DIA X 72"	⅜" X 18" X 18"	20"	2⅛"	14"	2"
Z	11½"	11½"	12 #8	15'–0"	13'–0"	2½" DIA X 72"	½" X 20" X 20"	22"	2⅝"	15"	2¼"



ANCHOR PLATE



INCLINED CONDITION

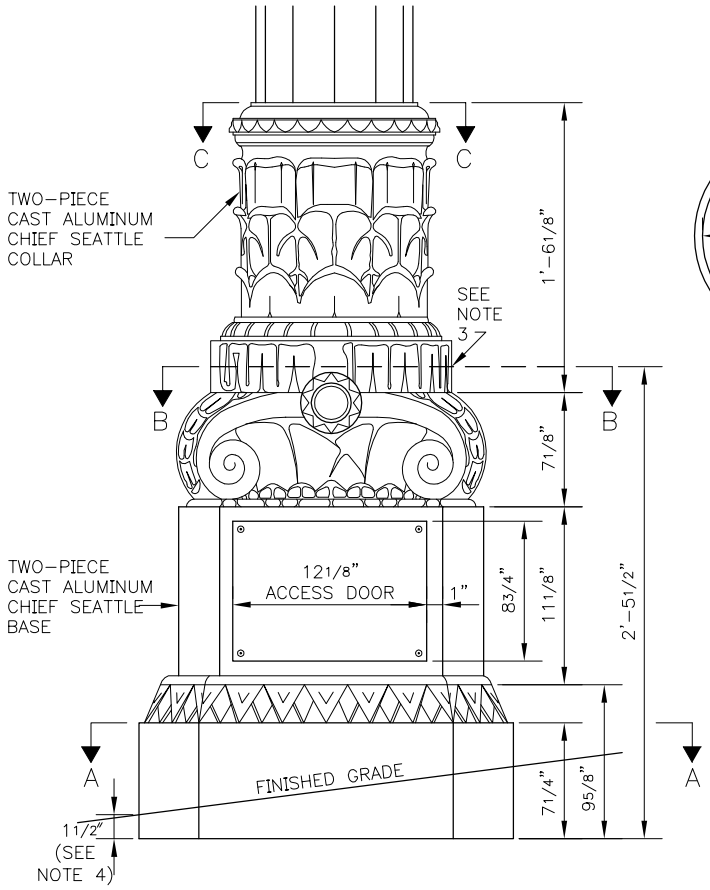
NOTES:

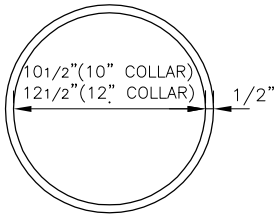
1. CONCRETE STRENGTH SHALL BE CLASS 4000 AIR ENTRAINED, 3/4"MAX SIZE COARSE AGGREGATE.
2. ANCHOR BOLTS FOR TYPE V,X,Z: ASTM F1554–99, GRADE 105, CLASS 2A INCLUDING SUPPLEMENTARY REQUIREMENTS S2, S3 AND S5. ANCHOR BOLTS FOR TYPE T: ASTM A576 (TYPE 1040 OR 045) FY=55 KSI MIN., ASTM A675 GRADE 90 OR ASTM A36 MOD FY=55 KSI. NUTS: ASTM A563 HEAVY HEX GRADE DH. HARDENED STEEL WASHERS: ASTM F436.
3. ANCHOR PLATE: ASTM A36. HOT DIP GALVANIZED.
4. ALL REINFORCING BARS SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM CLASS A615, GRADE 60.
5. ANCHOR BOLTS SHALL BE HOT DIP GALVANIZED ASTM A153 INCLUDING NUTS & WASHERS (FULL LENGTH) WITH 18" OF THREADS ON TOP & 12" ON BOTTOM
6. TAPE THE TOP OF ANCHOR BOLTS WITH CORROSION PROTECTION TAPE PER STD SPEC SEC 8–32.3(2)A PRIOR TO POURING CONCRETE.

REF STD SPEC SEC 8-32

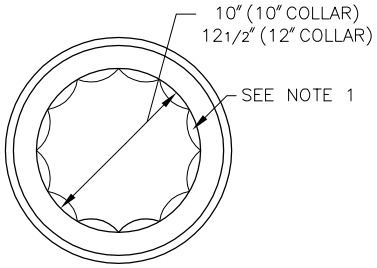
City of Seattle | NOT TO SCALE | STRAIN POLE FOUNDATION SCHEDULE & NOTES (TYPE T, V, X & Z)

REV DATE: DEC 2010

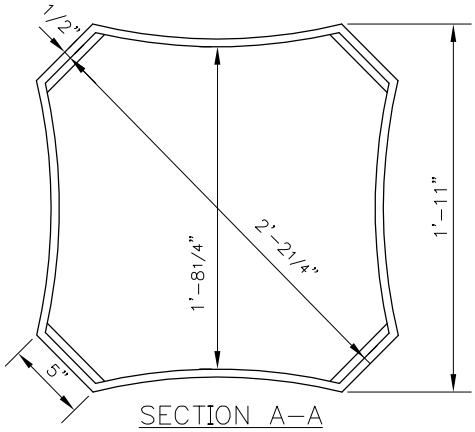




SECTION B–B
PLAN VIEW (TOP)



SECTION C–C
PLAN VIEW



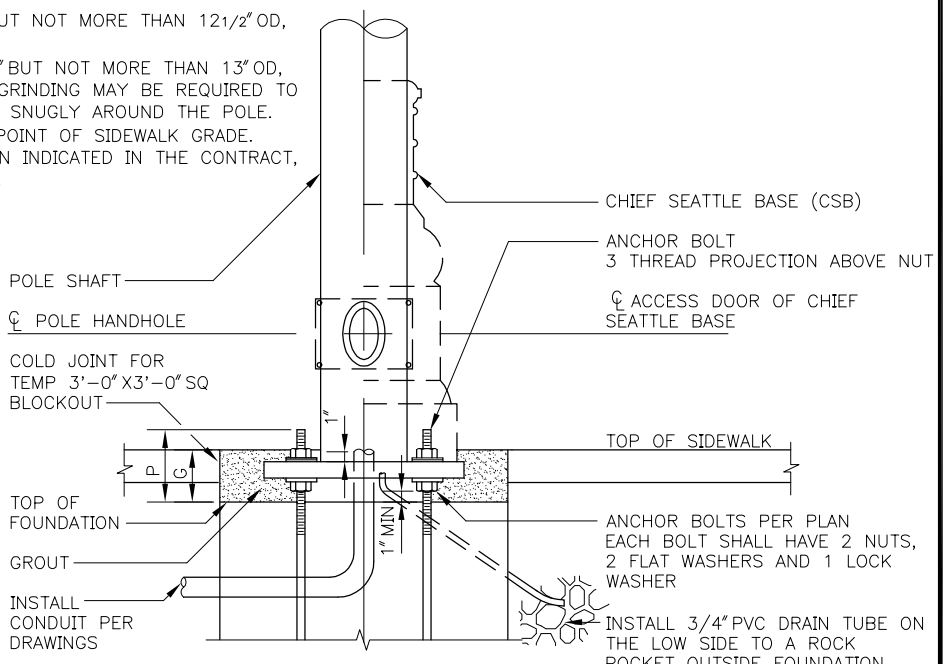
SECTION A–A
PLAN VIEW (BOTTOM)

NOTES:

1. FOR POLE DIAMETER GREATER THAN 9 1/2" BUT NOT MORE THAN 10" OD, A 10" COLLAR SHALL BE USED & THE FLUTES ON THE TOP OF THE COLLAR MAY HAVE TO BE GROUND OFF TO ALLOW A SNUG FIT AGAINST THE POLE.
2. FOR POLE DIAMETER GREATER THAN 10" BUT NOT MORE THAN 12 1/2" OD, A 12" COLLAR SHALL BE USED.
3. FOR POLE DIAMETER IN EXCESS OF 12 1/2" BUT NOT MORE THAN 13" OD, THE COLLAR SHALL NOT BE USED. SOME GRINDING MAY BE REQUIRED TO ALLOW THE TWO PIECE CAST BASE TO FIT SNUGLY AROUND THE POLE.
4. BASE SHALL BE EMBEDDED 1 1/2" AT LOW POINT OF SIDEWALK GRADE.
5. ONLY FOR USE IN PIONEER SQUARE, WHEN INDICATED IN THE CONTRACT, OR WITH APPROVAL FROM THE ENGINEER.

REFER TO STANDARD PLAN ON 541b

POLE TYPE	G	P
T	6 1/2"	8"
V	6 1/2"	9"
X	7"	10"
Z	11 1/2"	11 1/2"



POLE MOUNTING & GROUT DETAIL

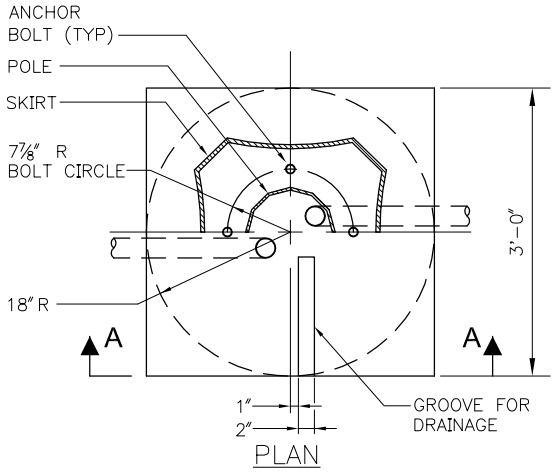
REF STD SPEC SEC 8-32

City of Seattle

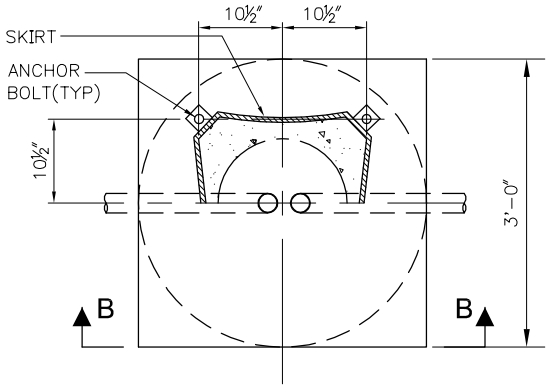
NOT TO SCALE

CHIEF SEATTLE BASE (CSB)

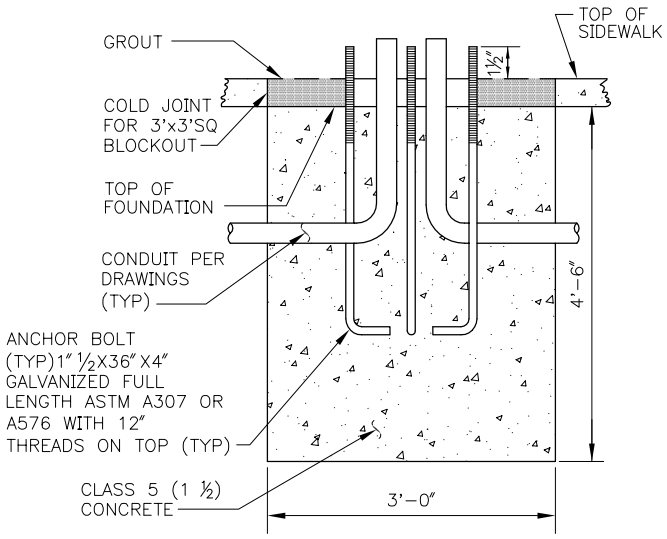
REV DATE: DEC 2010



PLAN



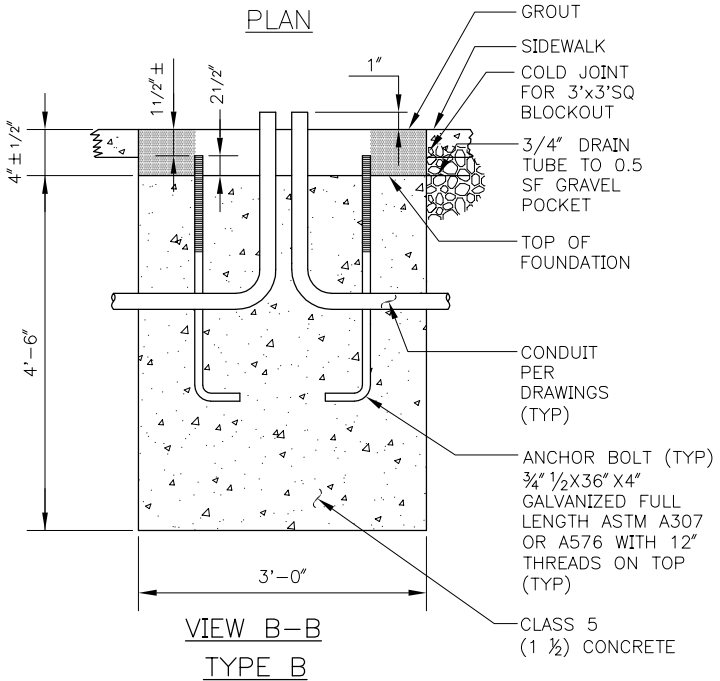
PLAN



VIEW A–A

TYPE A

BOLT PATTERN MUST BE DIAMOND SHAPE TO CURB.



VIEW B–B

TYPE B

TO BE USED FOR CONCRETE FILLED POLE, BOLTS ARE PARALLEL TO CURB.

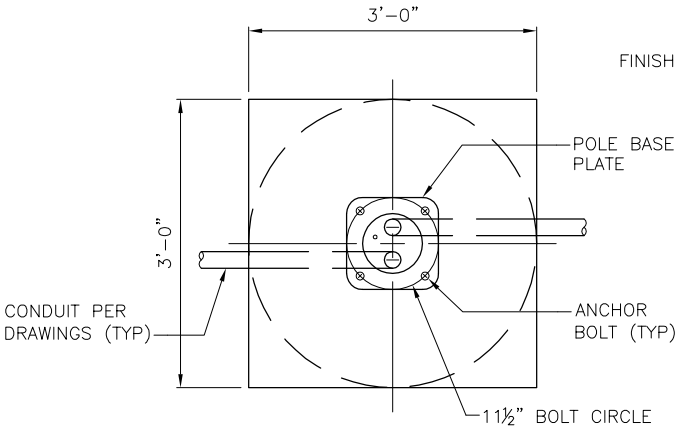
NOTES:

1. FOR TYPE "A" FOUNDATION ALIGN THE CHIEF SEATTLE BASE ACCESS COVER ON THE SAME SIDE WITH THE POLE HANDHOLE, AND CONDUITS.
2. INSTALL UFER GROUND IN FOUNDATION (SEE STD PLAN NO 524a)
3. ONLY FOR USE IN PIONEER SQUARE, WHEN INDICATED IN THE CONTRACT, OR WITH APPROVAL FROM THE ENGINEER.

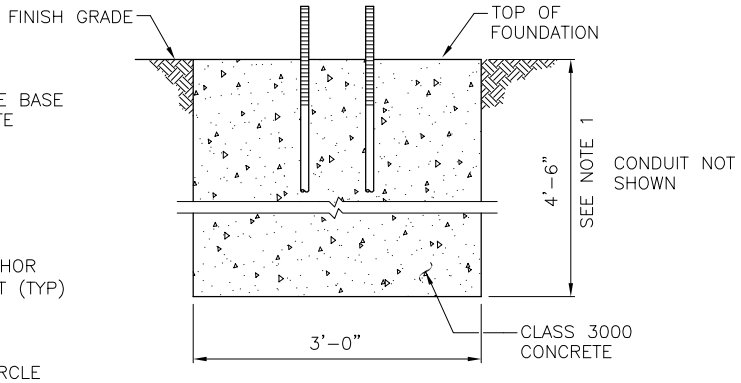
REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	CHIEF SEATTLE STREET LIGHT POLE FOUNDATION

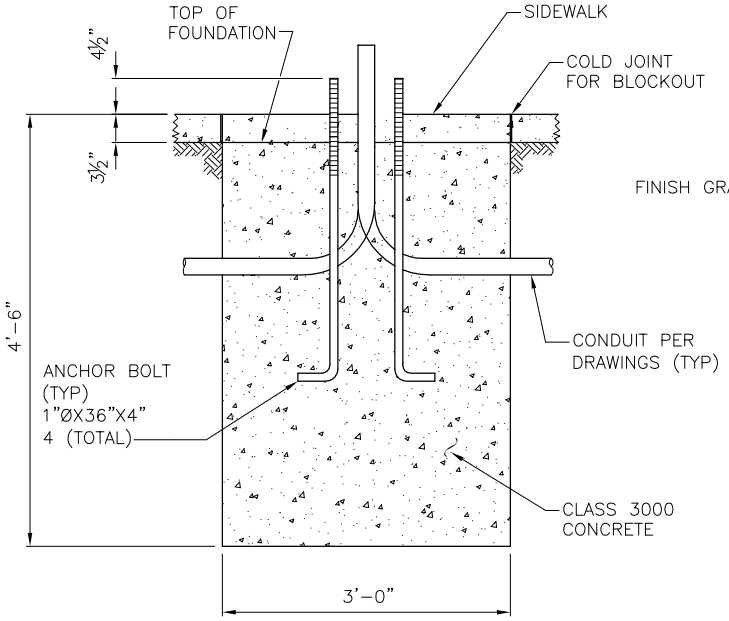
REV DATE: JUN 2010



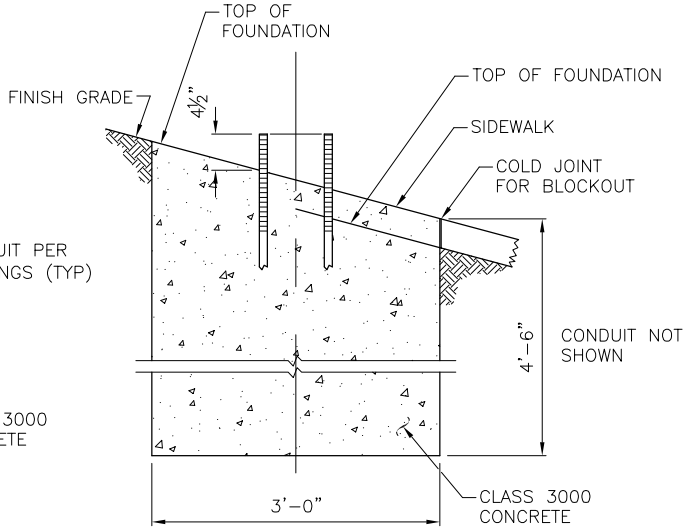
PLAN



IN EARTH



IN SIDEWALK



ON AN INCLINE

NOTES:

1. BOLT CIRCLE: 1 1½" TYP
2. SEE STD PLAN NO 563A FOR POLE MOUNTING AND GROUT DETAIL
3. ANCHOR BOLTS SHALL BE HOT DIP GALVANIZED (ASTM A153) FULL LENGTH AND FABRICATED FROM ASTM F1554 OR A576 WITH 12" THREADS ON TOP
4. INSTALL UFER GROUND IN FOUNDATION (SEE STD PLAN NO 524A)

REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	STREET LIGHT POLE FOUNDATIONS

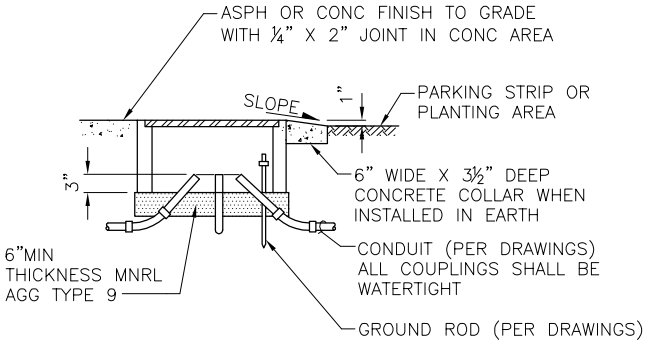
REV DATE: JUN 2010

NOTES:

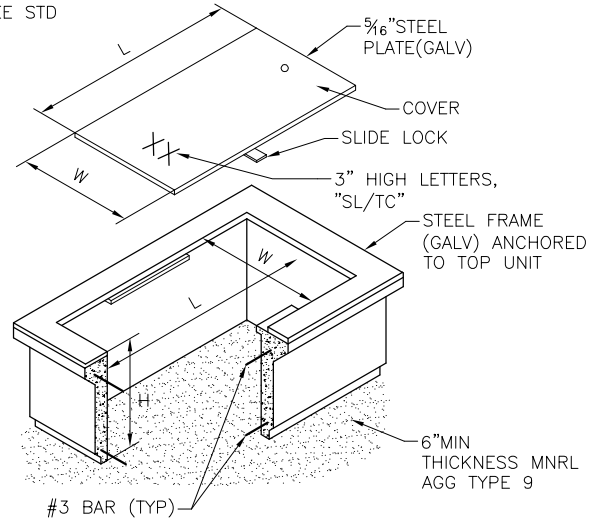
1. THE COVER SHALL HAVE 1/16" TO 1/8" CLEARANCE ON EACH EDGE WITHIN THE FRAME AFTER GALVANIZING.
2. THE GROUND ROD SHALL EXTEND 4" ABOVE THE BOTTOM OF THE HANDHOLE OR MINERAL AGGREGATE.
3. TYPE 1, 2, 3, 5 & 6 HANDHOLE COVERS SHALL HAVE "TC" AND/OR "SL" ON THEM, AS APPROPRIATE.
4. TYPE 4 HANDHOLE SHALL BE INSTALLED IN ROADWAYS, PARKING LOTS, ETC.
5. FOR PAVEMENT DEPTH GREATHER THAN 7" USE FRAME EXTENSIONS (SEE STD PLAN NO 231) TO BRING THE COVER UP THE THE LEVEL OF THE FINISHED PAVEMENT WITHOUT EMBEDDING THE BOTTOM FLANGE OF THE CASTING IN THE PAVEMENT.
6. A 4' LENGTH OF #6 THWN OR THHN COPPER WIRE SHALL BE SECURED FROM THE HANDHOLE COVER TO THE FRAME. WITH A 4'–0" LENGTH FROM FRAME THAT CAN BE HOOKED UP TO A GROUND ROD.
7. ALL HANDHOLE COVERS AND FRAMES SHALL HAVE A NON–SKID SURFACE (SEE STD SPEC SEC 9–34.6)
8. ALL HANDHOLES SHALL HAVE A LOAD RATING OF H20.

HANDHOLE SCHEDULE

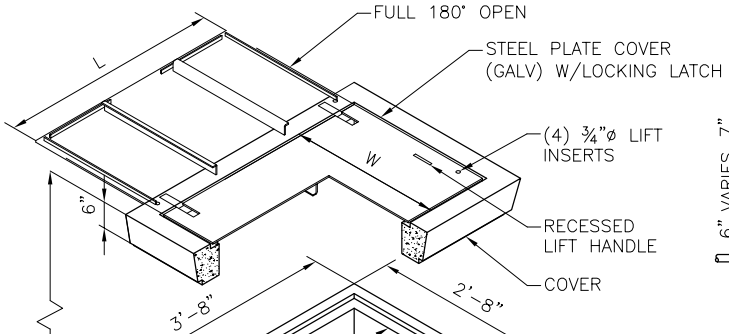
HANDHOLE TYPE	TOP UNIT INSIDE DIMENSION			EXTENSION UNIT(E)	COVER DIMENSIONS	
	L	W	H	H	L	W
1	19"	14"	12"	12"	18"	13"
2	28"	17"	12"	12"	26½"	17"
3	36"	24"	12"	12"	35"	24"
4	24"ø		VAR	NA	NA	NA
5	36"	24"	32"	NA	35"	24"
6	42"	42"	38½"	NA	33½"	33¾"
GRHH	8"ø			NA		

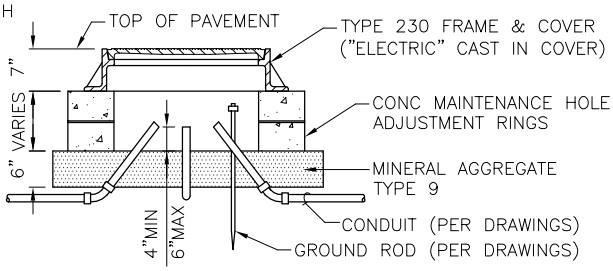


HANDHOLE INSTALLATION DETAIL



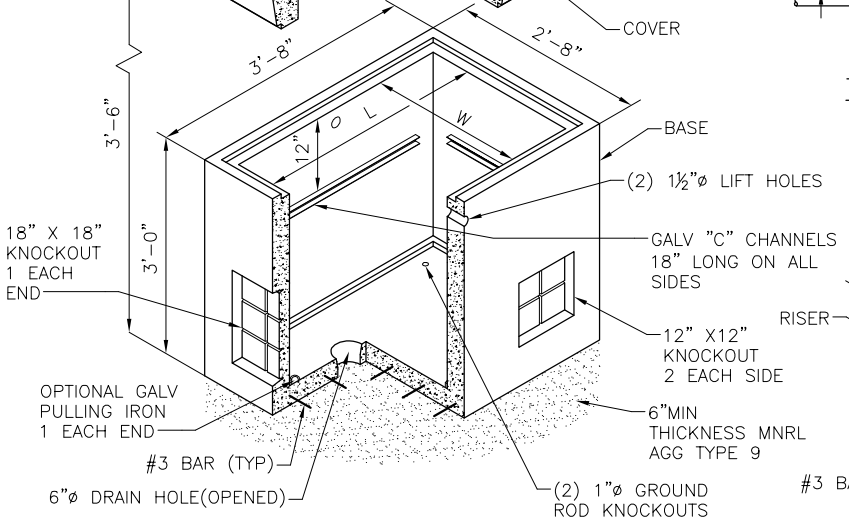
TYPE 1 & 2 HANDHOLE



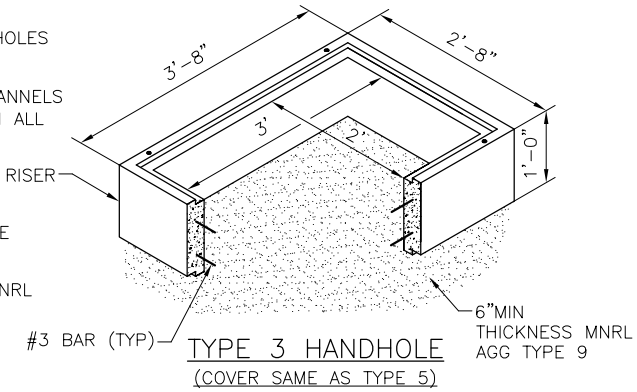


TYPE 4 HANDHOLE

TRAFFIC BEARING



TYPE 5 HANDHOLE



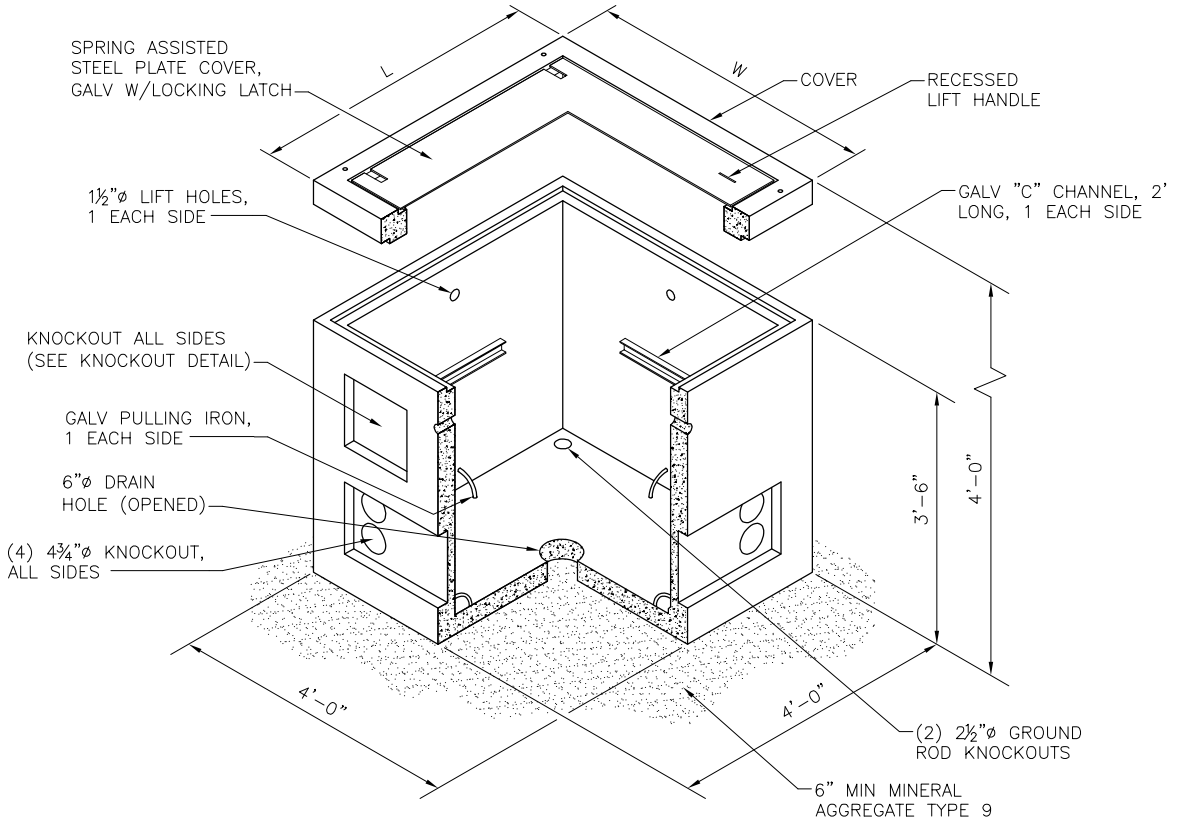
TYPE 3 HANDHOLE

(COVER SAME AS TYPE 5)

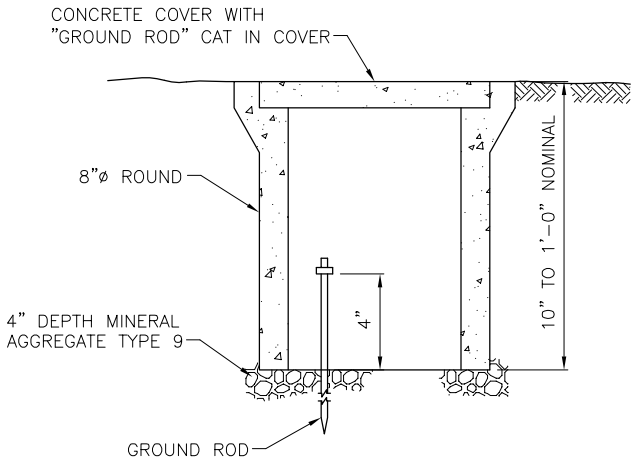
REF STD SPEC SEC 8-33

City of Seattle	NOT TO SCALE	HANDHOLES

REV DATE: JUN 2010



TYPE 6 MANHOLE



NOTES:

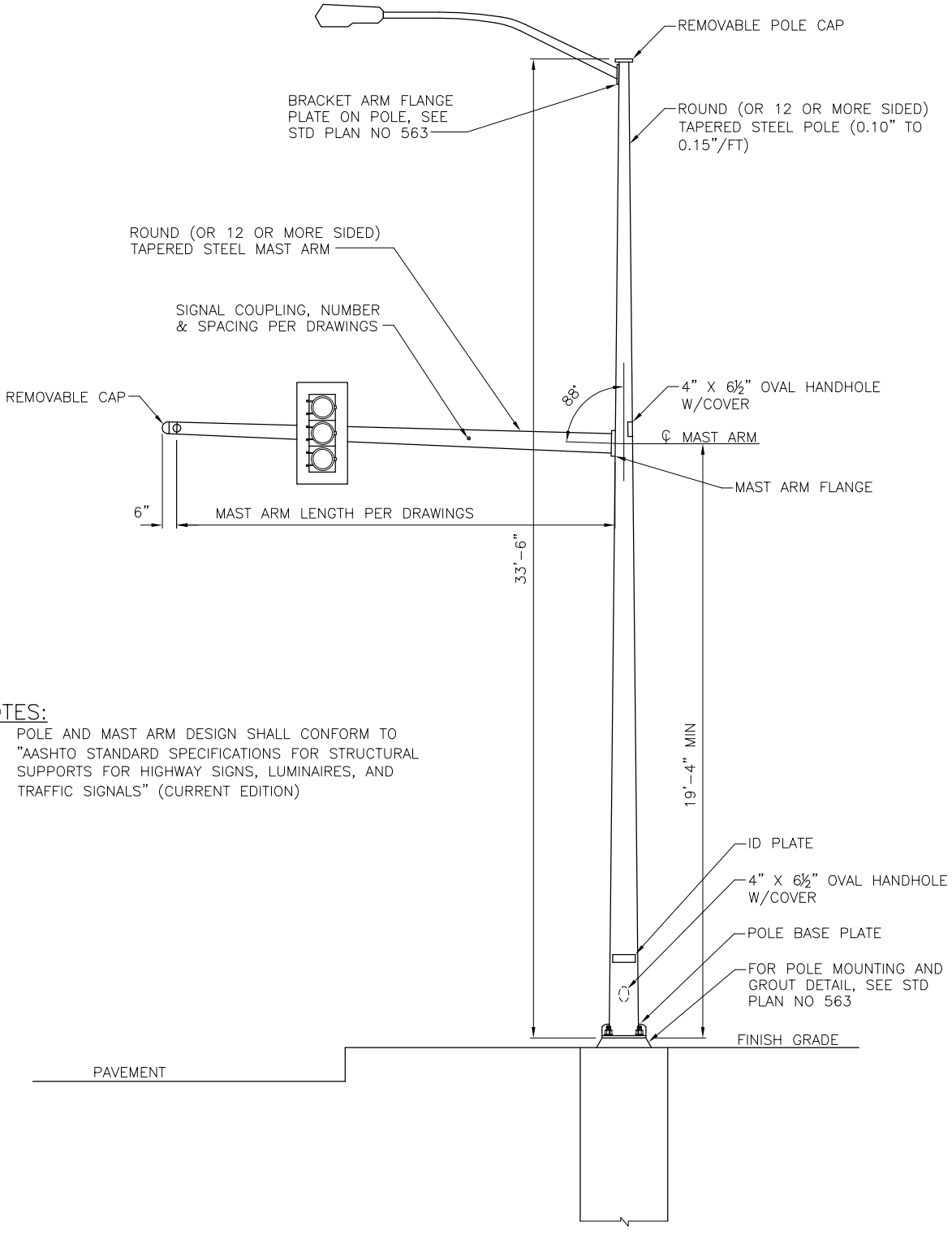
1. ALL HANDHOLES SHALL HAVE A H20 LOAD RATING.

GROUND ROD HANDHOLE (GRHH)

REF STD SPEC SEC 8-33

City of Seattle	NOT TO SCALE	HANDHOLES

REV DATE: JUN 2010



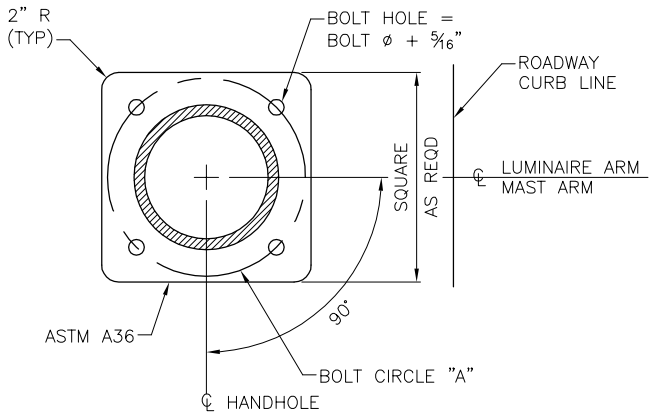
NOTES:

1. POLE AND MAST ARM DESIGN SHALL CONFORM TO "AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" (CURRENT EDITION)

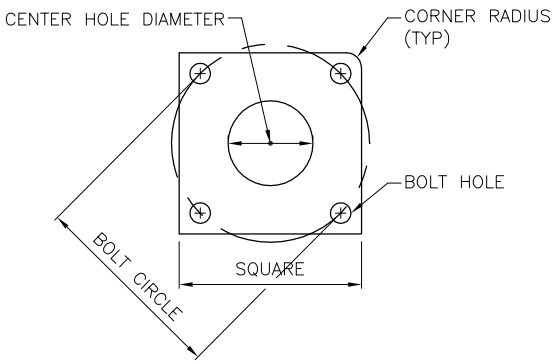
REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	STEEL MAST ARM POLE

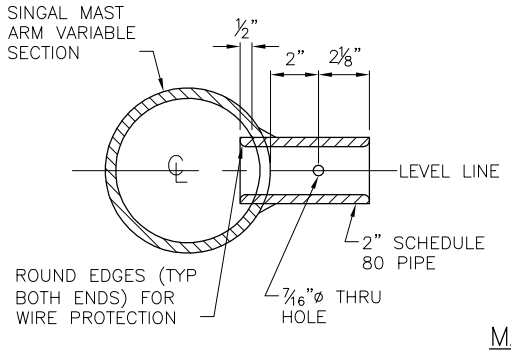
REV DATE: JUN 2010



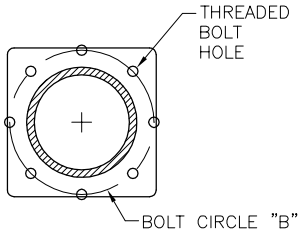
POLE BASE PLATE



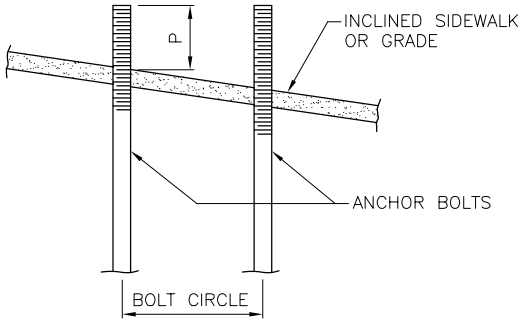
ANCHOR PLATE
PER FOUNDATION SCHEDULE



SIGNAL COUPLING
COUPLING TO BE FABRICATED &
INSTALLED BEFORE GALVANIZING



MAST ARM FLANGE



INCLINED CONDITION

MAST ARM SCHEDULE			POLE SCHEDULE		
MAST ARM LENGTH	FLANGE PLATE		POLE BASE PLATE		
	BOLT CIRCLE "B"	THREADED BOLT DIA	SQUARE	BOLT CIRCLE 'A"	BOLT HOLE
15'–0" TO 30'–0"	11"	1"–8NC	16" X 16"	14½"	1 13/16"
31'–0" TO 40'–0"	12"	1¼"–7NC	18" X 18"	16½"	2 1/16"
41'–0" TO 45'–0"	13⅜"	1¼"–7NC	18" X 18"	18"	2 1/16"
46'–0" TO 60'–0"	14"	1½"–6NC	20" X 20"	20"	2 5/16"

POLE FOUNDATION NOTES

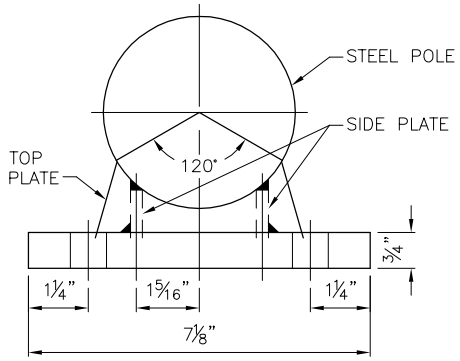
1. CONCRETE STRENGTH SHALL BE CLASS 4000 AIR ENTRAINED.
2. ANCHOR BOLTS SHALL HAVE Fy = 55 KSI MIN, NUTS: ASTM A563 HEAVY HEX GRADE DH. HARDENED STEEL WASHERS: ASTM F436.
3. BOTTOM ANCHOR PLATE: ASTM A36. HOT DIP GALVANIZED.
4. ALL REINFORCING BARS SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM CLASS A615, GRADE 60.
5. ANCHOR BOLTS SHALL BE HOT DIP GALVANIZED ASTM A153 INCLUDING NUTS & WASHERS (FULL LENGTH) WITH A MINIMUM OF 18" OF THREADS ON TOP & 12" ON BOTTOM.
6. TAPE THE TOP OF ANCHOR BOLTS WITH CORROSION PROTECTION TAPE PER STD SPEC SEC 8–32.3(2)A PRIOR TO POURING CONCRETE.
7. SEE STD PLAN NO 541a FOR FOUNDATION DETAILS.

FOUNDATION SCHEDULE											
MAST ARM LENGTH	FOUNDATION DEPTH (LATERAL BEARING)		ANCHOR BOLTS (FY=55 KSI MIN.)			VERTICAL REINFORCING	ANCHOR PLATE DIMENSIONS				
	150#/SF/FT	100#/SF/FT	PROJECTION	BOLT CIRCLE DIA	SIZE (J HOOK)		SIZE	BOLT CIRCLE DIA	BOLT HOLE	CENTER HOLE	CORNER RADIUS
15'–0" TO 30'–0"	7'–6"	8'–0"	7½"	14½"	1½" X 60"	8 #7	⅜" X 16" X 16"	14½"	1⅝"	10"	1⅝"
31'–0" TO 40'–0"	8'–6"	9'–6"	9"	16½"	1¾" X 72"	8 #8	⅜" X 16" X 16"	16½"	1⅞"	12½"	1⅝"
41'–0" TO 45'–0"	8'–6"	9'–6"	9"	18"	1¾" X 72"	8 #8	⅜" X 16" X 16"	18"	1⅞"	12½"	1⅝"
46'–0" TO 60'–0"	10'–6"	12'–6"	10"	20"	2" X 72"	12 #8	⅜" X 18" X 18"	20"	2⅛"	14"	2"

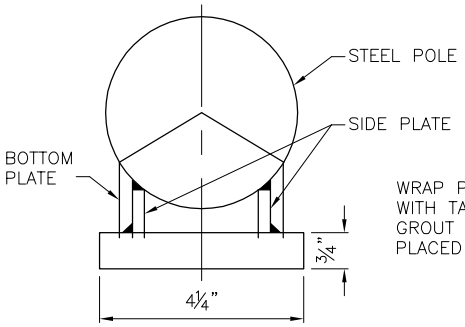
REF STD SPEC SEC 8-32

City of Seattle | NOT TO SCALE | STEEL MAST ARM POLE FOUNDATION SCHEDULE & DETAIL W/O METRO TROLLEY LOADS)

REV DATE: AUG 2010

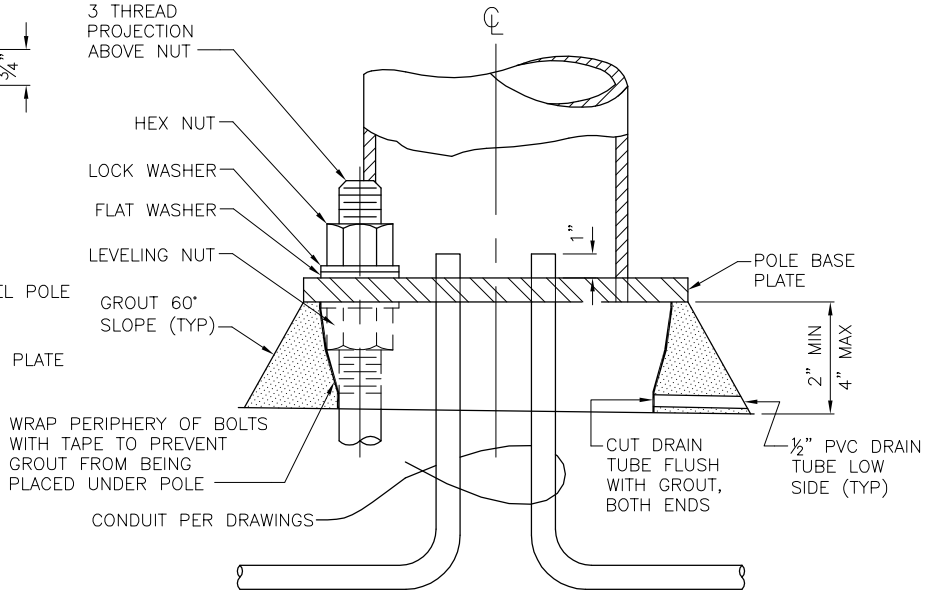


SECTION A–A

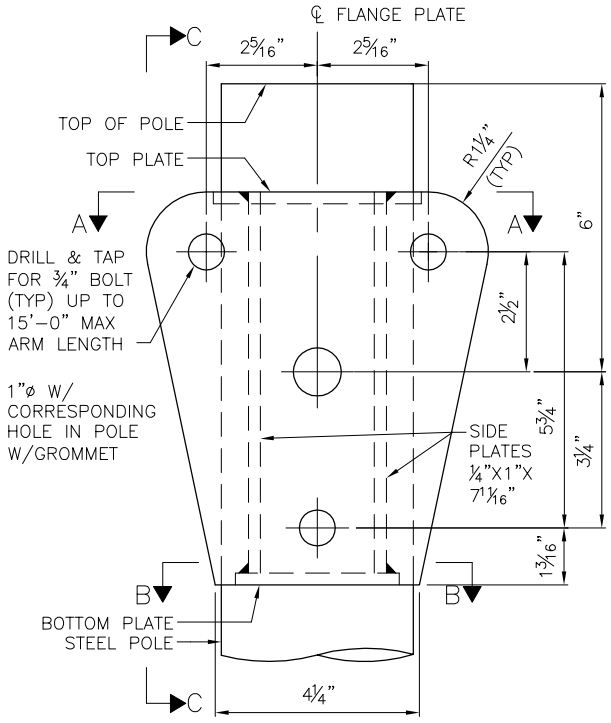


SECTION B–B

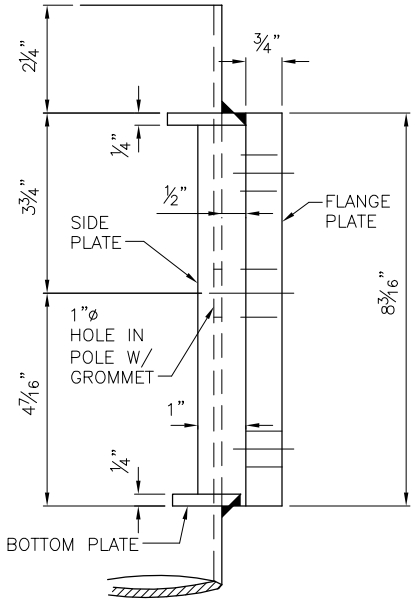
NOTE:
GROUT SHALL BE PREMIXED, NON–SHRINK AND NON–METALLIC



POLE MOUNTING & GROUT DETAIL
(EXCEPT FOR POLES W/CHIEF SEATTLE BASE



BRACKET ARM FLANGE PLATE ON POLE

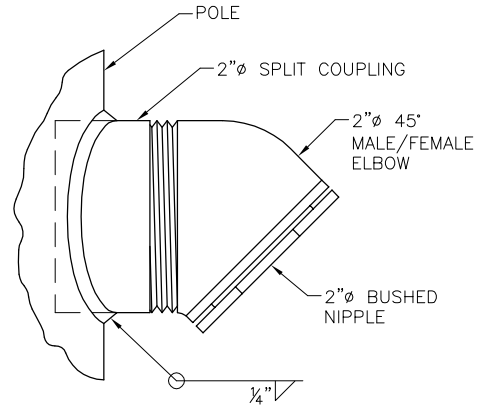


SECTION C–C
STRUCTURAL CARBON STEEL PLATES SHALL BE ASTM A36

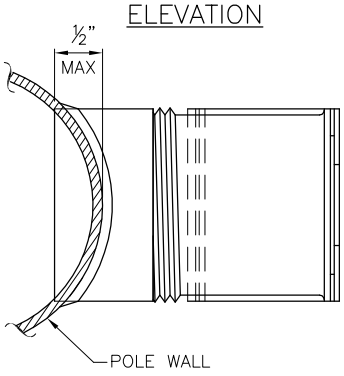
REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	MISCELLANEOUS STEEL POLE DETAILS

REV DATE: AUG 2010

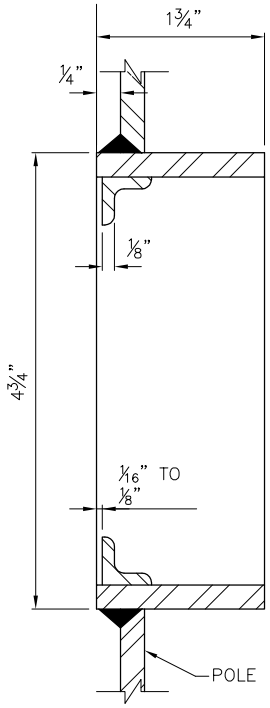


ELEVATION

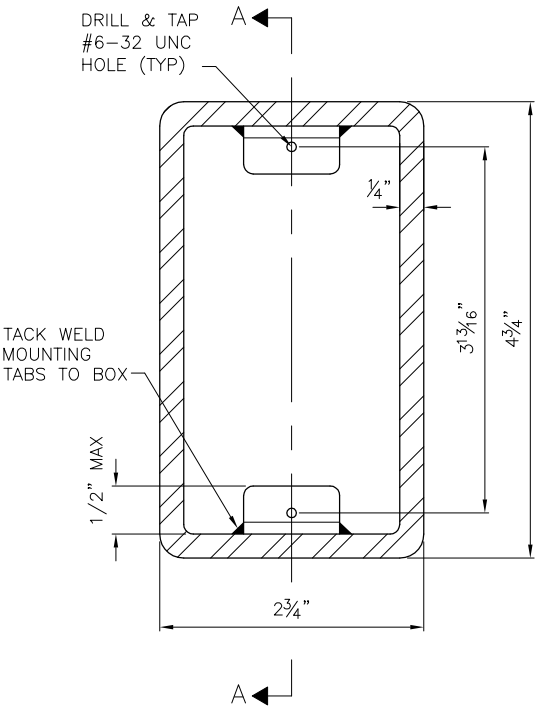


PLAN

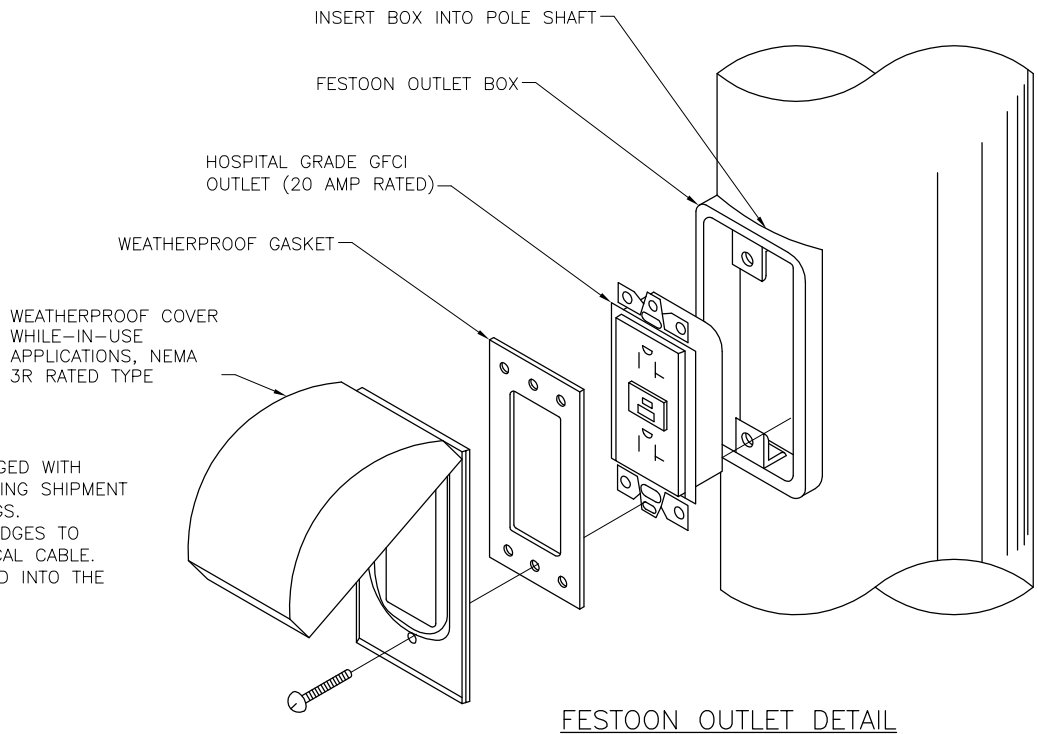
CABLE OUTLET DETAIL



SECTION A–A



FESTOON OUTLET BOX



FESTOON OUTLET DETAIL
(METAL POLES)

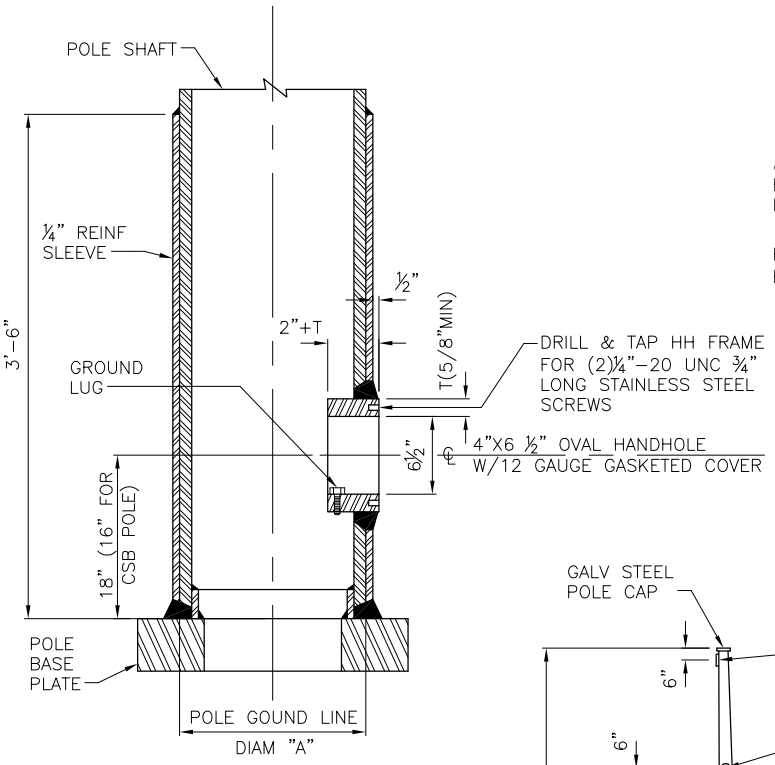
NOTES:

1. ALL OUTLETS SHALL BE PLUGGED WITH THREADED INSERT PLUGS DURING SHIPMENT TO PREVENT DAMAGE TO PLUGS.
2. REMOVE BURRS AND SHARP EDGES TO PREVENT DAMAGE TO ELECTRICAL CABLE.
3. SPLIT COUPLING SHALL EXTEND INTO THE POLE ½" MAX AS SHOWN.

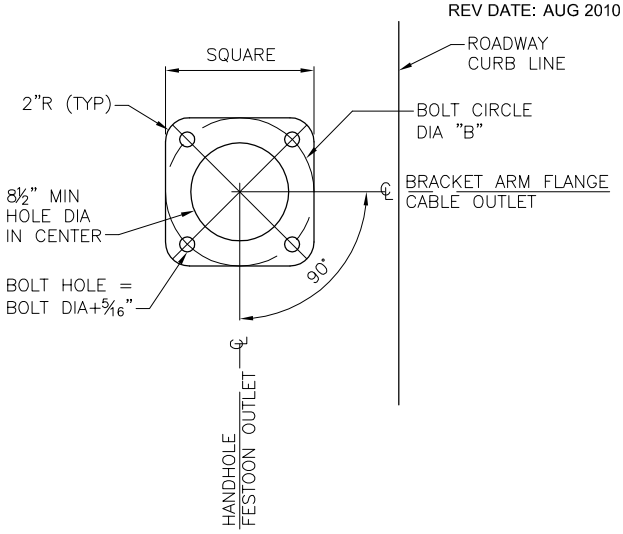
REF STD SPEC SEC 8-30 & 8-32

City of Seattle	NOT TO SCALE	MISCELLANEOUS STEEL POLE DETAILS

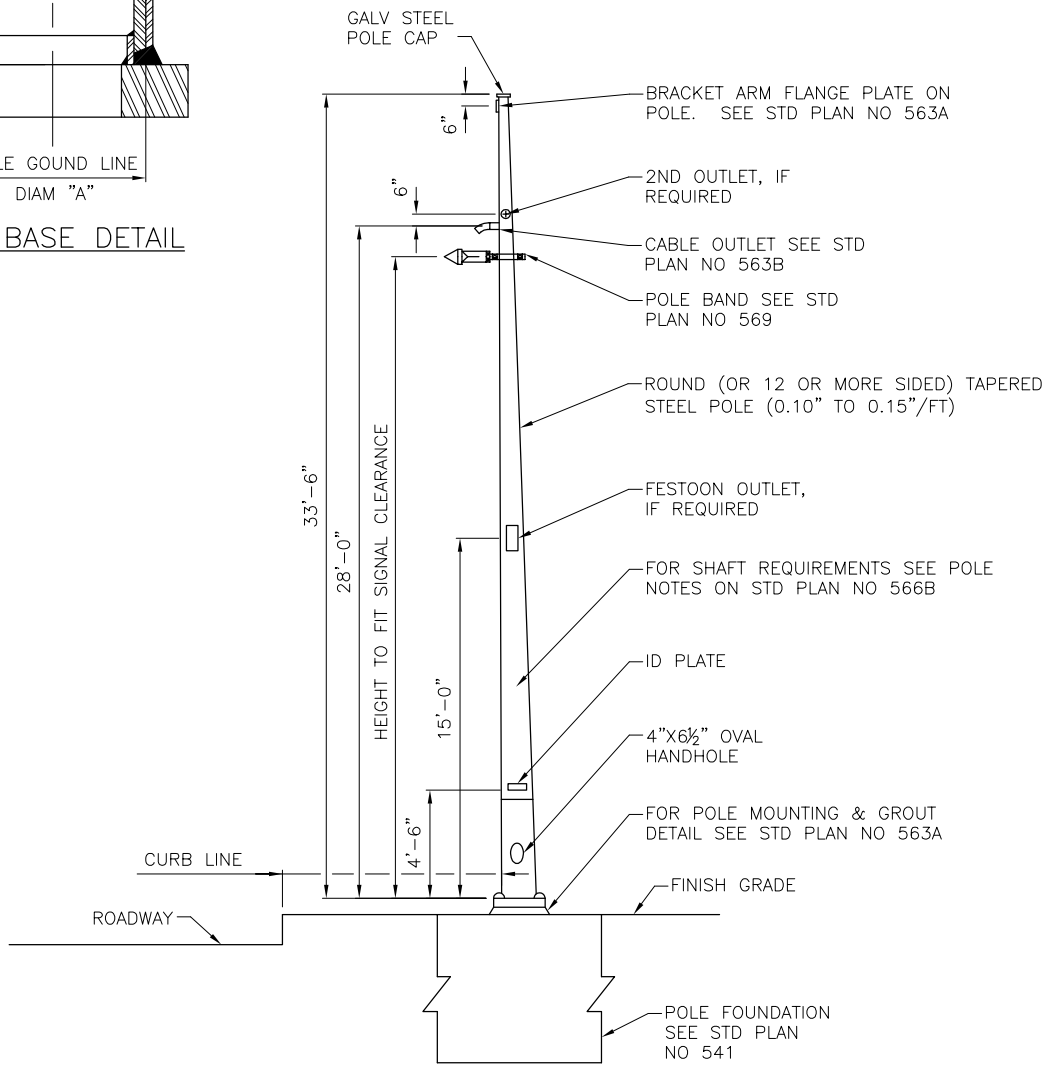
REV DATE: AUG 2010



POLE BASE DETAIL



POLE BASE PLATE



STRAIN POLE

REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	COMBINED USE METRO STRAIN POLE DETAILS (TYPE V, X & Z POLES)

REV DATE: AUG 2010

POLE TYPE	DEAD LOAD MOMENT KIP-FT (AT GROUND LINE)	POLE SCHEDULE						
		GROUND LINE DIA "A"		POLE BASE PLATE SIZE		BOLT CIRCLE DIA "B"	BOLT HOLE	ANCHOR BOLTS
		STD	CSB	STD	CSB			
V	51	12"	12"	1¾"X18"X18"	1¾"X23"X23"	18"	2 1/16"	1¾"DIA X 72"
X	93	14"	12½"	2"X20"X20"	2"X23"X23"	20"	2 5/16"	2"DIA X 72"
Z	164	15"	--	2½"X23"X23"	--	22"	2 13/16"	2½"DIA X 72"

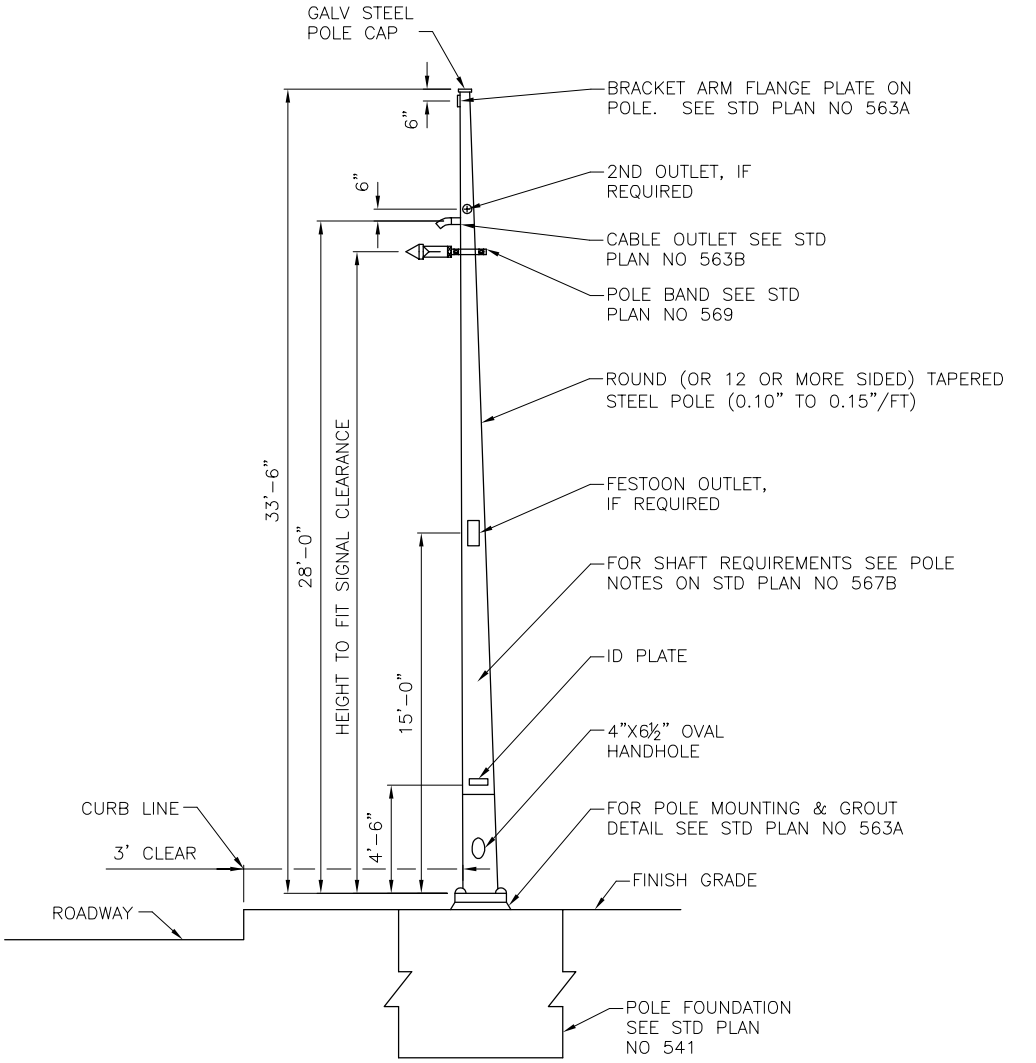
NOTES:

1. THE YIELD MOMENT SHALL BE 2X THE DEAD LOAD MOMENT. THE ULTIMATE PLASTIC MOMENT SHALL BE 2.5X THE DEAD LOAD MOMENT.
2. POLE SHAFT AND REINFORCING SLEEVE: ASTM A572 GRADE 50, 60 OR 65 (Fy=50, 60 OR 65 KSI RESPECTIVELY) OR ASTM A595 GRADE A OR B (Fy=55 OR 60 KSI RESPECTIVELY).
3. BASE PLATE AND HANDHOLE REINFORCING RIM: ASTM A36 OR ASTM A572 GRADE 42. BASE PLATE Fy≥0.65 POLE SHAFT Fy THE BASE PLATE THICKNESS MAY BE REDUCED BY ¼" IF ASTM A572 GRADE 42 STEEL IS USED.
4. REINFORCING SLEEVE SHALL BE FABRICATED FROM THE SAME MATERIAL AND YIELD STRENGTH AS THE POLE SHAFT.
5. POLE SHAFTS SHALL HAVE NO MORE THAN TWO LONGITUDINAL WELDS IN EACH PLY.
6. MINIMUM SHAFT WALL THICKNESS OF EACH PLY SHALL BE 0.239" (3 GAUGE). POLE SHALL HAVE A MAXIMUM OF TWO PLYS NOT INCLUDING THE ¼" REINFORCING SLEEVE.
7. MAXIMUM SILICON CONTENT IN STEEL SHALL BE 0.04%. SEE STD SPEC SECTION 9-33.1(3) FOR GENERAL GALVANIZING REQUIREMENTS.
8. POLE DIAMETER FOR 12 OR MORE SIDED POLES SHALL BE MEASURED FROM THE POINT TO POINT DIMENSION.
9. POLES SHALL MEET DEFLECTION CRITERIA STATED IN STD SPEC SECTION 9-33.2(2) WITH THE DEAD LOAD APPLIED AT 25' ABOVE GROUND LINE.
10. POLE STRENGTH SHALL MEET REQUIREMENTS OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (CURRENT EDITION).

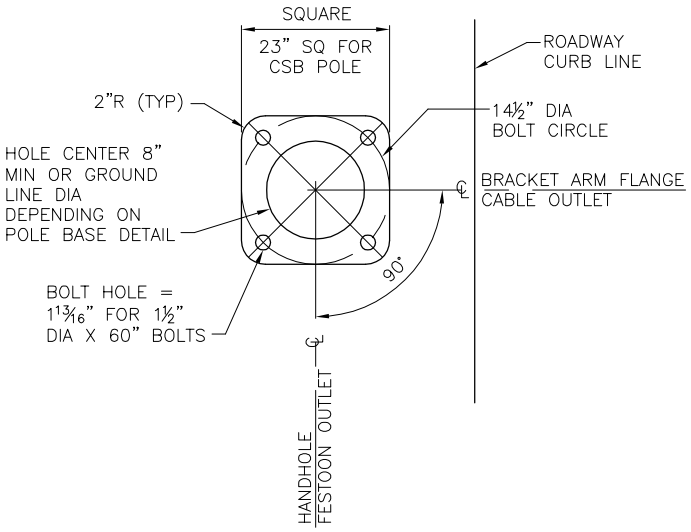
REF STD SPEC SEC 8-32, 9-33

City of Seattle	NOT TO SCALE	COMBINED USE METRO STRAIN POLE DETAILS (TYPE V, X, Z POLES)

REV DATE: AUG 2010



STRAIN POLE



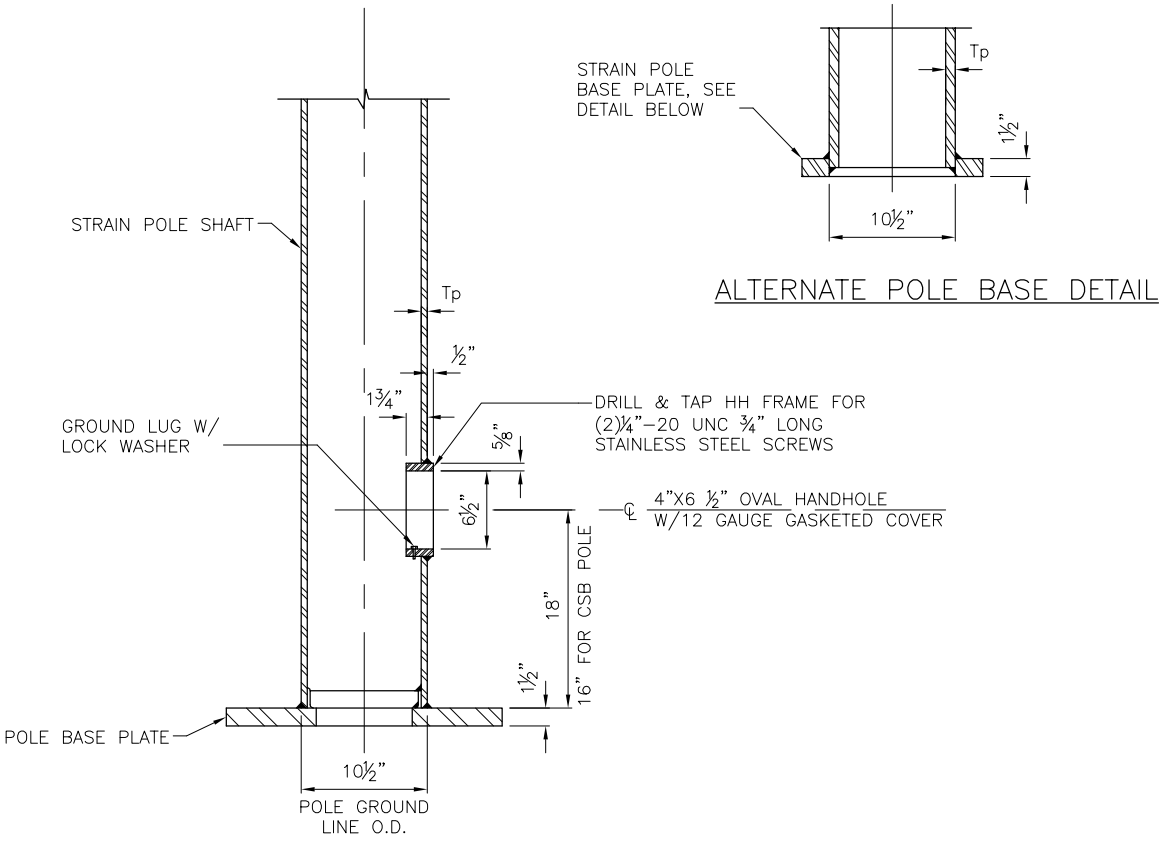
POLE BASE PLATE

REF STD SPEC SEC 8-32

City of Seattle	NOT TO SCALE	TYPE T STRAIN POLE DETAILS TRAFFIC SIGNAL ONLY

NOTES:

1. THE DEAD LOAD MOMENT AT THE GROUNDLINE SHALL BE 40 KIP–FT. THE YIELD MOMENT SHALL BE 2X DEAD LOAD MOMENT.
2. POLE STRENGTH SHALL MEET REQUIREMENTS OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (CURRENT EDITION).
3. POLE SHAFT: ASTM A572 GRADE 50, 60 OR 65 (Fy=50, 60 OR 65 KSI RESPECTIVELY), OR ASTM A595 GRADE A OR B (Fy=55 OR 60 KSI RESPECTIVELY)
4. BASE PLATE AND HANDHOLE REINFORCING RIM: ASTM A36 OR ASTM A572 GRADE 42. BASE PLATE Fy≥0.65 POLE SHAFT Fy THE BASE PLATE THICKNESS MAY BE REDUCED BY ¼" IF ASTM A572 GRADE 42 STEEL IS USED.
5. POLE SHAFTS SHALL HAVE NO MORE THAN TWO LONGITUDINAL WELDS IN EACH PLY.
6. MINIMUM SHAFT WALL THICKNESS OF EACH PLY SHALL BE 0.239" (3 GAUGE). POLE SHALL HAVE A MAXIMUM OF TWO PLYS.
7. MAXIMUM SILICON CONTENT IN STEEL SHALL BE 0.04%. SEE STD SPEC SECTION 9–33.1(3) FOR GENERAL GALVANIZING REQUIREMENTS.
8. POLE DIAMETER FOR 12 OR MORE SIDED POLES SHALL BE MEASURED FROM THE POINT TO POINT DIMENSION.
9. POLES SHALL MEET DEFLECTION CRITERIA STATED IN STD SPEC SECTION 9–33.2(2) WITH THE DEAD LOAD APPLIED AT 27' ABOVE GROUND LINE.
10. THE POLES SHALL BE COMPACT AND MUST MEET THE REQUIREMENTS IN AASHTO SECTION 4, TABLE 1.4 1B(1).



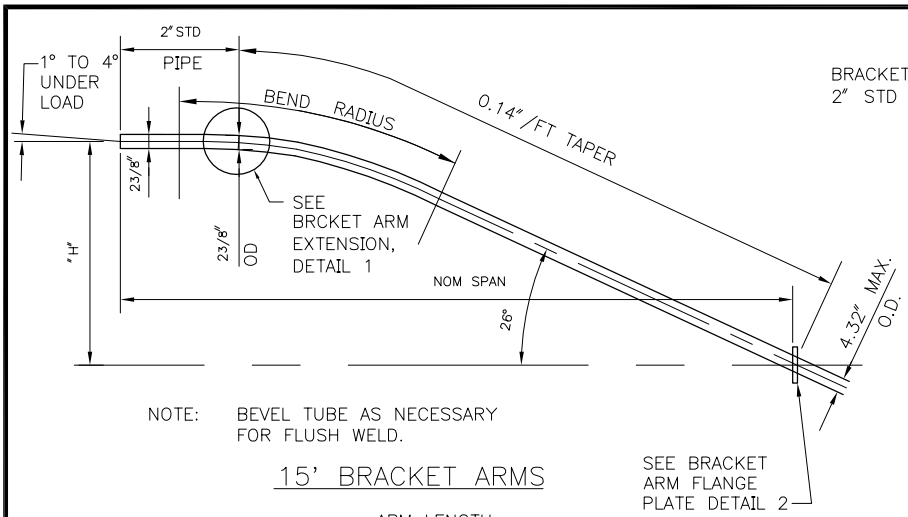
POLE BASE DETAIL

ALTERNATE POLE BASE DETAIL

REF STD SPEC SEC 8-32, 9-33

City of Seattle	NOT TO SCALE	TYPE T STRAIN POLE DETAILS TRAFFIC SIGNAL ONLY

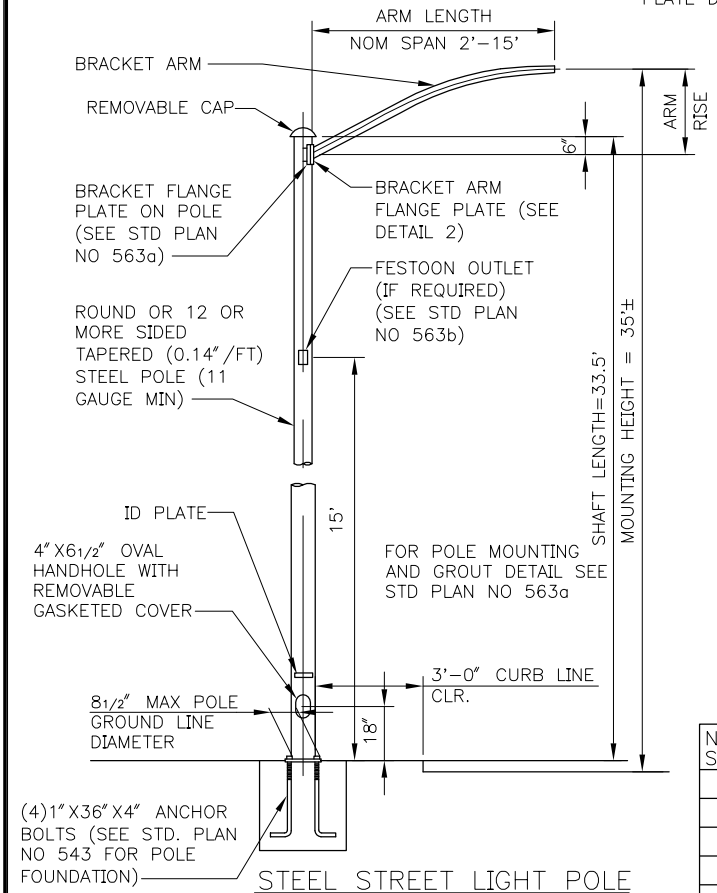
REV DATE: DEC 2010



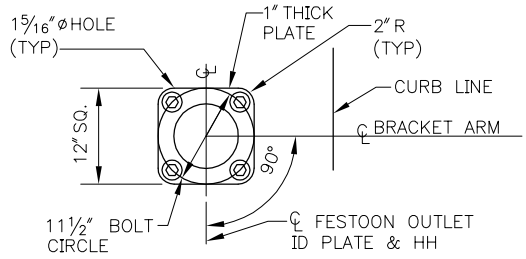
NOTE: BEVEL TUBE AS NECESSARY FOR FLUSH WELD.

SEE BRACKET ARM FLANGE PLATE DETAIL 2

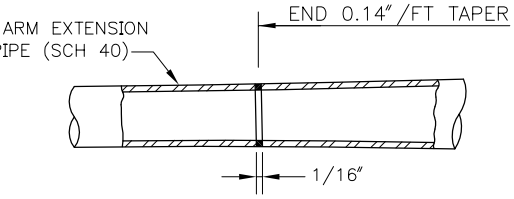
15' BRACKET ARMS



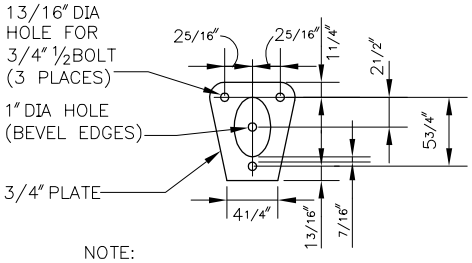
STEEL STREET LIGHT POLE



POLE BASE PLATE

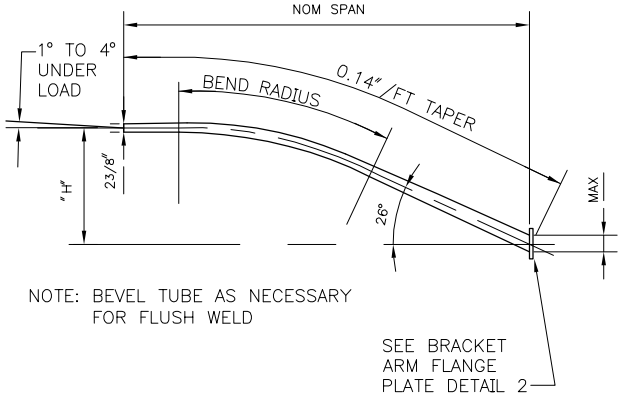


BRACKET ARM EXTENSION DETAIL 1



NOTE:
FLANGE DIMENSIONS AND HOLE LOCATIONS MUST MATCH THOSE ON FLANGE PLATE ON POLE (SEE STD PLAN NO 563a)

BRACKET ARM FLANGE PLATE DETAIL 2



NOTE: BEVEL TUBE AS NECESSARY FOR FLUSH WELD

SEE BRACKET ARM FLANGE PLATE DETAIL 2

2' THRU 12' BRACKET ARMS

NOM. SPAN	H*	BEND RADIUS	TUBE REQUIREMENT
2'	5 1/4"	—	2" STD PIPE
4'	12"	6'	11 GAUGE
6'	18"	9'	11 GAUGE
8'	24"	13'	11 GAUGE
10'	30"	15'	11 GAUGE
12'	33'	17'	11 GAUGE
15'	36"	17'	11 GAUGE

MATERIAL SPECIFICATION

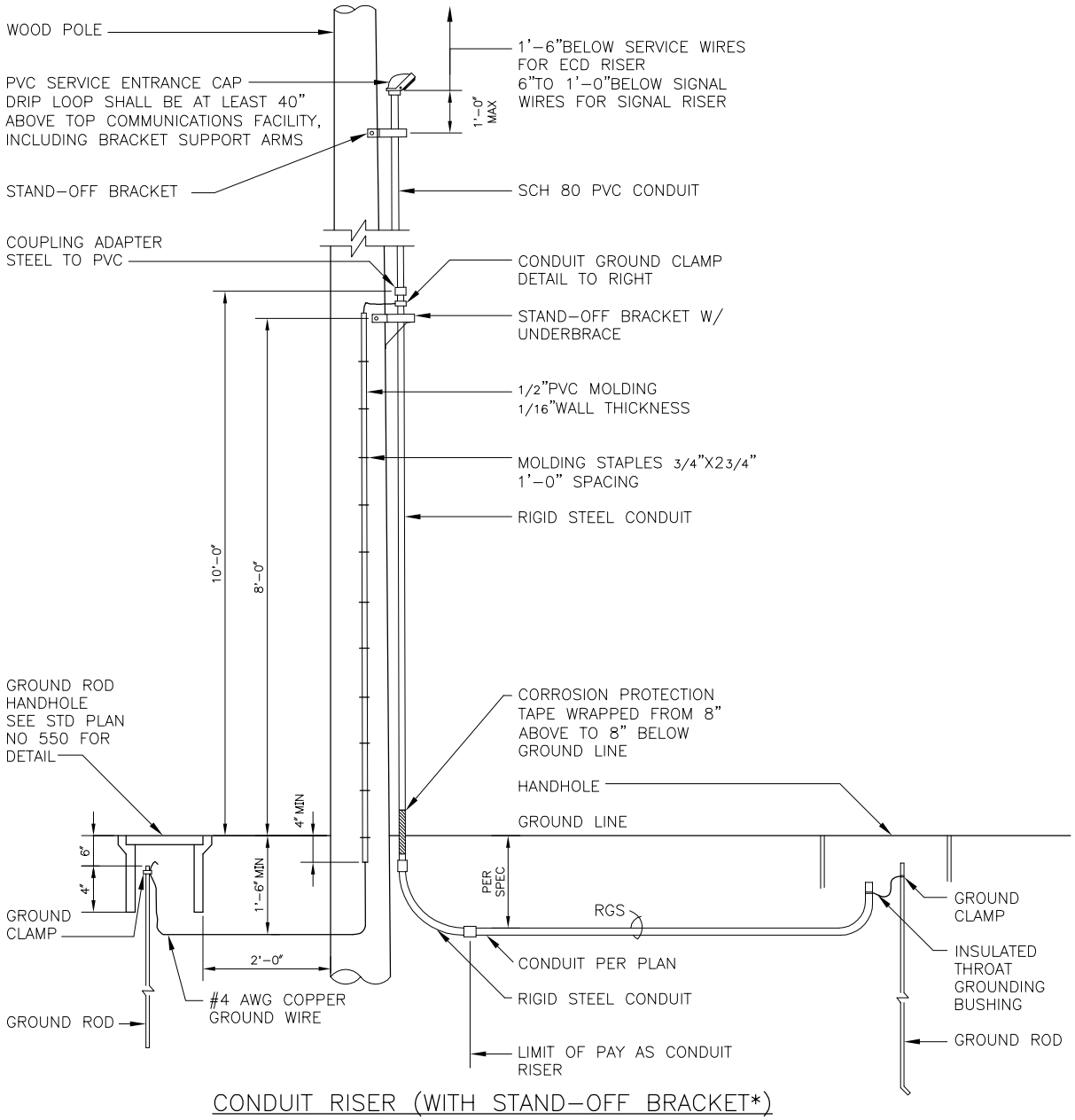
PLATE AND SHAPES: ASTM A36
POLE SHAFTS: ASTM A570 GR 40 MIN.
ANCHOR BOLTS: ASTM A307
BRACKET ARM FLANGE PLATE BOLT: ASTM A325

* THESE DIMENSIONS ARE ONLY ILLUSTRATIVE OF THE GENERAL OUTLINE AND MATERIALS USED IN THE CONSTRUCTION OF THESE ARMS AND ARE NOT INTENDED TO EXCLUDE MANUFACTURER'S STANDARD PRODUCTS.

REF STD SPEC SEC 8-32

City of Seattle | NOT TO SCALE | STEEL STREET LIGHT POLE WITH BRACKET ARM

REV DATE: 2011



CONDUIT RISER (WITH STAND-OFF BRACKET*)

*WHEN THERE WILL BE ONLY ONE CONDUIT (1 1/2"OR SMALLER) ON THE POLE, ONE HOLE MALLEABLE IRON CLAMPS WITH 4"LAG SCREWS SHALL BE USED TO SECURE THE CONDUIT TO THE POLE IN LIEU OF THE STAND-OFF BRACKETS

NOTES:

1. ON POLES WITH EXISTING CONDUITS, NEW CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH THIS STANDARD PLAN.
2. RIGID STEEL CONDUIT SHALL BE GROUNDED JUST BELOW COUPLING, APPROXIMATELY 8'-0"TO 10'-0"ABOVE GROUND, AS SHOWN
3. WHEN 2 OR MORE RIGID STEEL CONDUITS ARE INSTALLED ON ONE POLE, ONE CONDUIT SHALL BE GROUNDED AS SHOWN. THE CONDUIT SUPPORTS & STRAPS SHALL SERVE AS A BONDING DEVICE BETWEEN THE STEEL CONDUITS
4. THE GROUND WIRE SHALL BE ONE CONTINUOUS LENGTH. INSERT THE GROUND WIRE FORM THE BOTTOM OF THE GROUND CLAMP & BEND OVER THE CLAMP BEFORE TIGHTENING
5. PLACE GROUND WIRE IN QUADRANT BETWEEN POLE FACE & SECONDARY NEUTRAL
6. ALL STEEL HARDWARE SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123
7. CONDUIT CLAMP SPACING SHALL BE PER THE NEC WITH A MINIMUM OF TWO HOLE CLAMP PER 10'-0"LENGTH OF CONDUIT
8. POWER AND SIGNAL CONDUCTORS SHALL NOT BE PLACED IN THE SAME CONDUIT.

REF STD SPEC SEC 8-33, SCL CONSTRUCTION GUIDELINES U 7-10

City of Seattle	NOT TO SCALE	CONDUIT RISER